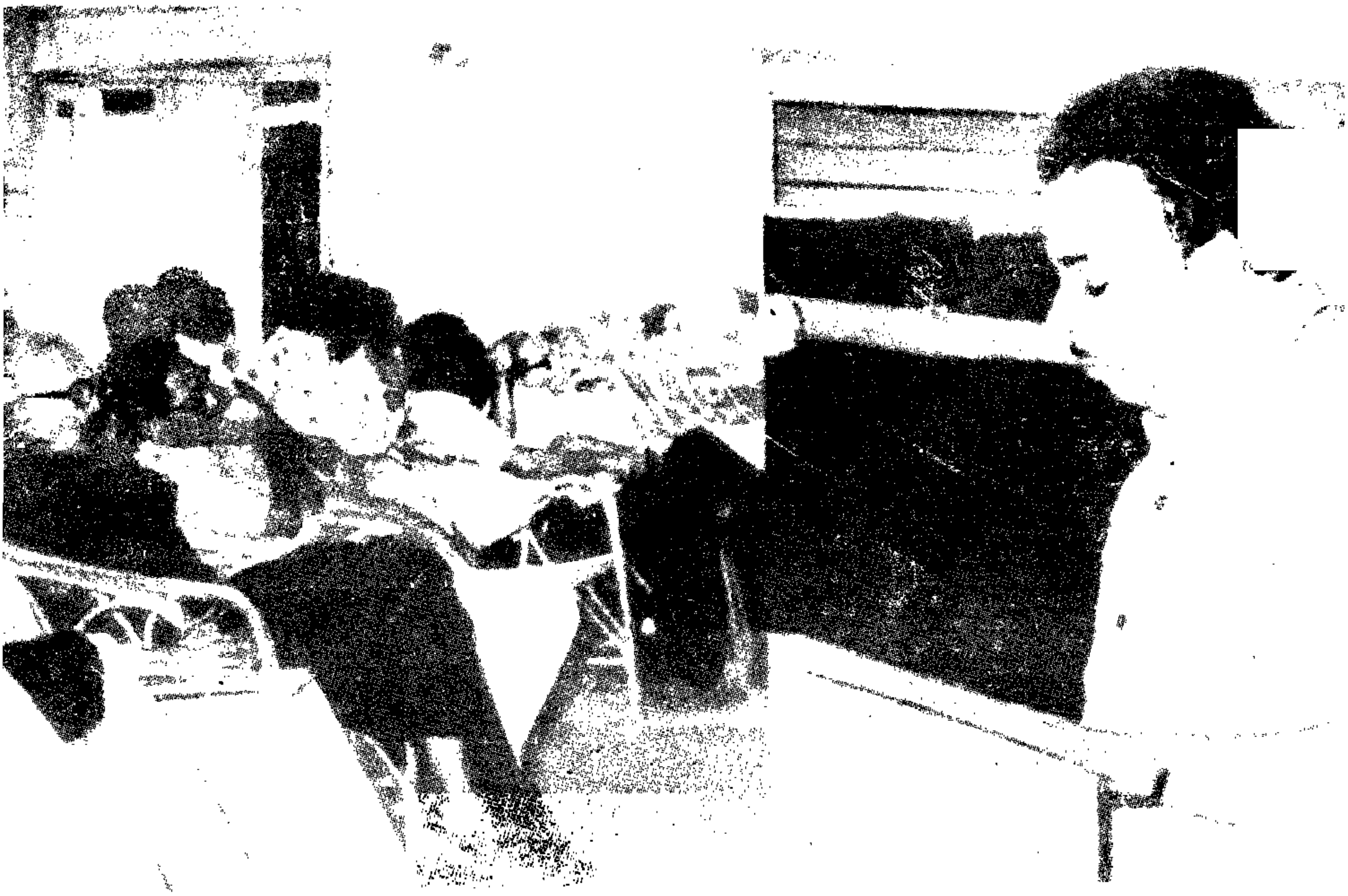
University News

A FORTNIGHTLY CHRONICLE OF HIGHER EDUCATION & RESEARCH JUNE 15, 1979

Dravidian Linguists meet in Calicut



Prof. N. Purushothaman, Acting Vice-Chancellor, welcoming the delegates of the Ninth All India Conference of Dravidian Linguists at the University of Calicut.

JAWAHARLAL NEHRU UNIVERSITY

NEW DELHI-110067

Advertisement No. Aca. III/15 79

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Qualifications

Essential

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(b) A doctor's degree or published work of an equally high standard; and
(c) About five years experience of teaching and or research.

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(ii) Sociology of Complex Organizations;
(iii) Sociology of Professions and Occupations; and
(iv) Industrial Sociology.

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Relaxation in any of the qualification may be made (a) in favour of persons of eminence or of high academic professional distinction, and (b) in exceptional cases where adequately qualified persons are not available but are otherwise found suitable for the position. It will also be open to the University to consider the names of suitable candidates who may not have applied.

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Candidates from abroad, applying for the position may apply on plain paper (but their applications should reach the University by the last date), furnishing all the relevant information such as their names; date and place of birth; marital status; nationality; state of domicile; postal and permanent addresses; father's name and address; academic and professional attainments; full details of (a) publications, and (b) research projects undertaken; languages (s) known; details of visits to foreign countries; and the names and addresses of at least two persons well acquainted with the candidate's professional work who should also be requested by the candidate to forward to the Deputy Registrar (Academic) confidential report concerning the candidate.

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It may be noted that this advertisement carries no specific last date. In order to be useful for both parties the advertisement will be valid for one year from the date of advertisement and the Institute will review cases received during the year more than once.

A. N. BHARGAVA
REGISTRAR

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Hony. Editor : ANJNI KUMAR

Internal Management of Universities

[Contributed by the University of Burdwan]

The Internal Management of Universities has assumed great importance during the last decade due to the developing aspects of Universities.

The internal managment conceives four most important areas:

(1) Management of Teaching and Research
(2) Management of administrative sections
(3) Management of Students' problems; and
(4) Management of staff (other than teaching)

The management problems of these four divisions of the Universities are felt as much by the authorities as by the individuals concerned.

The Universities these days are required to tackle problems of teaching and reaserch on equal or greater measure like student problems. The administration of teaching departments is as much a source of conflict as are the other problems. The emphasis on management is now shared more by the teachers than by the students.

The following kinds of trend on the part of faculty members are discernible in greater or lesser degree in most Universities :

(i) the neglect of teaching
(ii) the loss of interest on programme of academic activities
(iii) deficiency of academic standard
(iv) lack of responsibilities of academic personnel and their role in faculty matters
(v) poor quality of lessons
(vi) indifferent attitude about the results of teaching
(vii) teacher-student relations
(viii) outdated system of assessment.

Every major University is faced with the problems of academic administration in a big way. Those involved in the business of academic administration are not serious enough to understand their responsibility or duty. There are of course exceptions to this general trend.

There are other problems within a teaching department as between the Head of a Department and other staff members. The consequences of all these problems are seriously affecting the programme of teaching and research in Universities fast.

The U.G.C. and the authorities of the Universities have failed to prescribe even the minimum of duty hours for teaching staff and records of average working hours per week will reveal that most of the teachers have very low rates of working periods. The activities of research work, it is argued, take away the bulk of their time. Whether the research work of faculty members will justify the lowering of instructional or teaching load is a matter for scrutiny. This has created a gap between the teachers and the learners. The demands of students for greater emphasis on teaching hours cannot be ignored. The University authorities helplessly look on these affairs as no norms are available. The academic management has thus assumed a bigger problem for the Universities.

In the field of administration, the situation is precarious. The internal management of Universities has become these days instances of imcompetence due to a variety of reasons. The chief among them are : internal dissension, poor quality of administrators, interference with the administration by outsiders, low morale of staff members, neglect of work, recruitment policy of staff, and last but not the least. growing tendency of indiscipline among staff members.

It is not the purpose of this note to identify the cause of the deterioration in the administrative structure. Various other factors have contributed to the deficiencies in the internal management of Universities. The deterioration may be due to the dearth of the right type of men for the right type of job.

Internal management of Universities is generally modelled on the pattern of the Acts and Statutes adopted by the various States. The basic structure, however, follows a uniform pattern, namely, a body of University administrators presided over by the Chancellor. The Vice-Chancellor and other functionaries have specific statutory functions. The model Act for Universities suggested what should be the position of the administrators in relating to the internal management of Universities. The pattern follows that there should be a Vice-Chancellor with clear functions and responsibilities prescribed under the Acts. There may be Pro-Vice-Chancellors, Deans of Faculties and other Statutory officials like the Registrar, the Finance Officer, the Inspector of Colleges, the Controller of Examinations, Dean of Students etc. The report of the Committee on Governance of Universities and Colleges also suggested the model for Universities' administration, the organisation of teaching departments, the procedure of students participation and various other details.

With the expansion of the activities of Universities the structure and the pattern of administration and management of Universities should be changed to cope with the manifold problems of University administration. The role of Universities in relation to the teaching community, the students, the affiliated colleges, the constituent colleges and last but not the least, the internal management of staff members has become more complex in the context of the various developmental activities undertaken during the last few plan periods. The functions of Universities have these days become more or less those of participation among different members of the University. The ideas of management of University business in the various stages of its activities are changing faster. The functions of heads of Departments constituting the governance of Universities management are gradually taking shape to promote a sense of participating activities among the students, teachers and others connected with the day to day affairs of the Universities. The academic administration, the role of teachers, the feeling of autonomy of teacher in academic matters, the touchy problems of students participation in the activities and functions of Universities are all so inter-mixed that the management style has to be re-oriented to include not only the statutory administrators who are responsible for the day-to-day administration but also those who are directly or indirectly contributing to the progress, achievement and other activities of the Universities. It is not adequate now to imagine that the set pattern of management as are found incorporated in the statutory Acts or provisions of Universities is workable. The set pattern suffers from certain deficiencies in that it does not give importance to functionaries other than those who are statutorily appointed. The needs of the society, the community and the students in general now require that the role of statutory functionaries should be so oriented as to allow for participation either in a statutory manner or in some other form of students and teaching community so as to promote a sense of belonging with the Universities administration. Various forms of such participation have been suggested in the reports of the Commission or Committees from time to time, but it has been our experience that practical needs of Universities do not fit in with the pattern so suggested or which is current. The authorities of the Universities which statutorily govern the Universities and the authorities in the internal management should have greater and significant role in the administration and such administration should invite participation by the students and other components in its internal management in a manner that ultimately the question of administration of the Universities by a few is not doubted. The thinking that the administrators manage the Universities and the internal management rests on certain permanent executives has to be changed with a view to providing for a larger involvement of different sectors which do not normally come within the scope of internal management of Universities. It should be possible to evolve a model for the internal management of the Universities which gives the system a mobility, a greater awareness, a channel for communication and a sense of belonging with the administration. In order, therefore, to execute a reform in the internal management which we believe would go a long way in removing the distrust on internal management of Universities, there should be real participation in decision making and not merely consultative bodies, in the fields of administration—academic and general, and more particularly in the instrument of examination. The students have the greatest distrust and dislike for administration in matters of syllabi, course structure, pattern of instruction, examination and other activities in the affairs of the Universities.

The reform of internal management pattern is, therefore, to be taken up on priority basis. ☐

Universities and National Development

—A Status Report and Future Projections in Examination Reforms

V. Natarajan*

Examination Reform is in a 'curious-fix' in universities in our country. On the one hand, everyone is convinced that it is necessary to implement reforms in respect of introducing a system of continuous internal evaluation, question banks, grading in the place of marking, semester system etc. Few universities have gone systematically introducing this as a 'package' preparing teachers, students and others in the system adequately while many of them introduced these one in 'isolation' from the other, without adequate preparation and thinking. On the other hand, few other universities which are genuinely interested in bringing about changes in examination system are perplexed at the way things have gone. It is therefore necessary at this point in time to take stock of the situation and begin to decide on future courses of action.

Examination reforms in real sense is three decades old in higher education. Radhakrishnan Commission in 1949 laid foundation and UGC (1958) continued with it with a few seminars, workshops, committees and brought out brochures.

In January 1971, Association of Indian Universities-then called Inter University Board of India & Ceylon, organized a seminar on examinations to call for vigorous and sustained action in reforming examinations. One explanation at any rate seemed to be that recommendations and proposals made by Committees and seminars on this subject are not always detailed or concrete enough. The seminar therefore took particular care to see that its own discussions did not lose touch with the realities of the situation and that whatever proposals it made were of a kind that could also be implemented. In plain words, the seminars went somewhat beyond a mere call to action. It also tried to evolve, as far as it could, a set of practical and practicable recommendations. In the opinion of the seminar the imperative need was to improve upon the existing system and streamline it by ensuring greater reliability as well as greater objectivity. In this connection, amongst other recommendations, the seminar recommended introduction of internal assessment, re-designing of question papers, relative ranking (the percentile basis of awards), use of mechanical aids in examination works, introduction of semester system of examination and establishment of a well staffed unit at the national level for research into problems of examinations and also to promote the establishment of similar units in the various universities and colleges and undertake training of people in the new techniques, locally as well as nationally.

In 1974, a concrete step in this direction was taken by the University Grants Commission by convening four zonal workshops to discuss problems relating to examination reforms, autonomous colleges and postgraduate education. The workshops were held between July and November, 1974 at Madurai, Ahmedabad, Chandigarh and Bhubaneswar. The recommendations of the workshops on examination reforms were brought out in the form of a brochure. The workshops broadly endorsed the UGC scheme of examination reform and accepted the philosophy outlined in 'Examination Reform—A Plan of Action'. However, various issues regarding the system of grading could not be discussed in these workshops in depth. It was, therefore, decided to convene zonal workshops to discuss the objectives and mechanics of the grading system in all its ramifications. The workshops were held at the Universities of Delhi, Panjab, Bombay, Madras, Calcutta and Jabalpur.

The main emphasis is on the following aspects of examination reforms :

(a) Continuous sessional evaluation as a supplement to the present final examination.

(b) The development of question banks in order to eliminate some of the shortcomings of setting up examination papers and as a means for revision and modernization of courses of study.

(c) Introduction of grade system instead of present marking system in order to increase reliability and bring about better comparability among different subjects.

(d) Introduction of the semester system in order to have greater flexibility.

STATUS REPORT

1. Present position of Internal Assessment in Indian Universities

The Implementation Committee on Examination Reform at its meeting held in New Delhi noted that 67 universities including 14 agricultural/technical universities and 7 institutions deemed to be universities were having sessional evaluation at different levels. Of these 46 universities and institutions give a weightage of 25 percent or more for sessional assessment in respect of some of the courses or all the courses. The Committee reiterated its earlier view that marks/grades of sessional assessment and external examination should not be totalled up. In any case, they should be shown separately if for unavoidable reasons they are added for determining aggregate/overall grade. The name of college/institute should also be shown in the grade card. An analysis of the available data with the Research Cell, Association of Indian Universities gives the following picture with regard to marks allotted for internal assessment.

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*Project Officer (Exam), AIU, New Delhi.

There is a range from 0 to 50% marks. These may be classified under six different categories. They are :

Category I Universities which award internal assessment marks from 0–10%.

Category II Universities which award internal assessment marks from 0—20%.

Category III Universities which award internal assessment marks from 0—30%.

Category IV Universities which award internal assessment marks from 0 to 40%.

Category V Universities which award internal assessment marks from 0—50%.

Category VI 100% internal assessment.

I Category

1. Dibrugarh University (10% for pre-degree courses).
2. Mysore University (10% for U.G. courses in some of the faculties only).

II Category

1. Berhampur University (20% for intermediate courses).
2. Calicut University (20% for Zoology).
3. Gurunanak Dev University (15% to 20% Chemistry Department, 20% Town Planning)
4. Mysore University (20% for P.G. courses).
5. Meerut University (20% for P.G. courses).
6. Sambalpur University (20% PU, BA, BSc & B. Com courses).
7. Saurashtra University (20% & more for Science, Commerce, Medicine, Education and Law).
8. Shivaji University (10% to 20% for predegree, B.Sc., B.Com, BE and M.Sc., courses).
9. Udaipur University (20% for all Departments).
10. Utkal University (20% for all UG courses).
11. Viswa-Bharati (20% for all Departments.

III Category

1. A.M.U. (30% for subjects in which there is a practical examination).
2. Allahabad University (25% for all courses) in atleast five university departments.
3. Andhra University (25% for the M.A., M.B.A. & M. Com courses in most of the departments).
4. B.H.U. (15 to 33% for all P.G. Departments)
5. Calicut University (25% for Chemistry courses, 35% for Botany and 30% for History).
6. M.S. University of Baroda (30 to 100% P.G. course, 30% for U.G. Arts, Science. Commerce and Medicine).
7. N.E.H. University (20% to 30% for Economics, Political Science, History, Philosophy and Life Sciences).
8. Osmania University (25% for all P.G. courses).
9. Sardar Patel University (30% for all U.G. courses).

IV Category

1. A.M.U. (40% for subjects in which there are no practical examinations).
1. Calicut University (40% for Physics, Commerce).
3. Gauhati University (31%–40% for all P.G. courses).
4. Jadavpur University (31%–40% for Engineering & Technology Science courses).
5. Panjab University (20–40% for eleven examination viz. B. Sc. (Engg.) B.Sc, Chemistry, Engg. & Tech), B.Ed., BP Ed., MPEd. B. Com. (Hons.), Dip. in Marketing Management; Dip. in Personal Management and Labour Welfare; Master of Commerce.
6. University of Poona (40% for all P.G. courses).
7. S.N.D.T. Women's University (33—40% for Education, Home Sc., Library Science and Nursing).
8. I.S.M., Dhanbad (25—40% for all departments).

V Category

1. A.M.U. (50% for all Practical courses).
2. Andhra University (55% for M.Sc. courses only).
3. University of Jammu (25 to 50% in all Departments).
4. Madurai University (11.6% to 50% for a number of P.G. subjects, B.A., B.Sc., Special and BBA).
5. Meerut University, (50% for P.G. & M. Phil courses).
6. Sardar Patel University (30–50% for P.G. courses).
7. C.I.E.F.L., Hyderabad (40—50% in all departments).
8. Gujarat Vidyapeeth (50% for Bachelor of Social Science).
9. University of Roorkee (50% in all faculties).

VI Category

1. J.N.U. (50% to 100% in all departments).

Percentage of marks for Internal : External Assessment in Engineering courses (from the information received for semester system)

	Name of University/Institution	Internal	External
1.	Andhra University	50%	50%
2.	University of Mysore	50%	50%
3.	Indian School of Mines, Dhanbad	30%	70%
4.	Birla Institute of Technology & Science, Pilani	100%	100%
5.	J. N. Technological University, Hyderabad	100%	0%
6.	Orissa University of Agriculture and Techonology	100%	0%

Note ; In the Orissa University of Agriculture & Technology, if the V.C. considers necessary to get the papers evaluated by external assessment in any course, he may do so in such a manner as he deems proper.

2. Present Position of Question Banks in Indian Universities

There is nothing revolutionary in the idea of a question bank. Stores or banks of questions have been in existence for a long time. Over the years, various universities and examining boards have produced a large number of questions in many different subject areas; these in effect constitute a series of banks from which questions are drawn for examining purposes and to which questions are added from time to time.

The Examination Bulletin describes the Question Banks as follows :

> "A Bank of items (questions) of known technical values can be built up for future use. It might, in practice, prove of value to arrange for item construction to be a more or less continuous process. The construction of written paper can then become a matter of judging the suitability of items of known technical value from a bank of items. Items can be weeded out as out of date over a period of time. Further it can be said that new questions should be tried out and statistical evidences for its facility, discrimination ascertained, it is absolutely necessary that the banks would have to be large to be of value."

The concept of question banks is more relevant at the undergraduate level and in the affiliating type of university. There should, however, be no objection if the university departments develop question banks at the postgraduate level. It is to be noted tthat question banks are to be developed by a university on its own keeping in view the objectives of courses of study. However for the benefit of a large number of universities which cannot afford to have question bank on their own, a central agency must produce question bank for identified core subjects at first degree level.

The Association of Indian Universities undertook Question Banking as a development project two years ago and has since successfully built up initial question banks in the First Phase in 10 subjects, namely, Mathematics, Physics, Chemistry, Botany, Zoology, History, Geography, Psychology, Commerce and Economics at the First degree level. Nearly 60,000 questions/items in these subjects are available both in the form of 8″×5″ cards in trays and also in the form of a book series. The whole development project was designed with systems approach involving the eight steps namely, 1) defining the need, 2) stating the goals and objectives, 3) listing the constraints, 4) designing alternatives, 5) selecting an alternative, 6) implementing, 7) evaluating, and 8) refining. As far as the Ist Phase is concerned the stages of implementation, evaluation and refinement are being gone through. More than 8000 teachers from 62 universities have been involved in preparation and prevalidation of these banks.

At the same time it was felt that a Second Phase involving the following subject areas must be taken up in stages for the development of initial question banks. The subjects chosen are Strength of Materials, Automobile Engineering, Electrical Power System, Anatomy, Physiology, Pharmacology, Constitutional Law, Law of Contracts, Sociology, Political Science, Foods and Nutrition, Library Classification, English Language and Literature, Mathematics (PG) and English Language and Literature (PG). Three main sources from which questions/items were collected included:

(a) from specially conducted question bank workshops in various universities/colleges;

(b) from teachers and item writers from all over the country;

(c) from the past examination papers of universities in these subjects.

These questions/items were then prevalidated with a checklist of criteria for good quality questions/items and provided with basic technical values like:

(a) Bibliographic coding (reference number)
(b) Subject
(c) Topic
(d) Class for which it is meant
(e) Type of question
(f) Objective tested by the question/item
(g) Time for answering
(h) Marks allotted.

Thus a bank of items/questions of known technical values has been built up for future use. It might in practice prove of value to arrange for item construction to be a more or less continuous process. The construction of written papers can then become a matter of judging the suitability of these items/questions of known technical values from the bank. Items/questions can be weeded out as "out-of-date" over a period of time. These are the questions/items who do not satisfy the criteria regarding facility value and discrimination index. These banks are made sufficiently large so that answer banks are impossible to come out. As Scriven (1967) has eloquently argued these banks provide not just material for terminal evaluation but also for continuous assessment and individualised examining.

A Monograph on Question Banking for Universities is already in circulation and this Monograph describes fundamental principles, outcomes and uses of a Question Bank pre and post-validation of questions/items to enable universities and teachers to use the question banking books and also to launch upon their own Question Banking project. Along with this series on the question banking, an exclusive Monograph on Question Banking in English Language and Literature is being brought out highlighting the concepts of question banking in English Language and Literature at both undergraduate and post-graduate levels.

The Implementation Committee on Examination Reforms at its meeting held on 3rd May, 1978 at the University Grants Commission noted with satisfaction that the scheme of question banks had picked up further during the year 1977-78.

As far as the information with Research Cell, Association of Indian Universities is concerned. the question banks in the various subjects at the grduate and post-graduate levels have been prepared at the following 25 universities:

Berhampur, Bombay, Calicut, Gauhati, Gujarat, Jabalpur, Kumaun, Madras, Madurai, Marathwada, Meerut, Mysore, North-Bengal, Osmania, Panjab, Poona, Rajasthan, Sardar Patel, South-Gujarat, Saugar, SNDT Women's, Utkal, Sri Venkateswara, Haryana Agricultural University and Punjabrao Krishi Vidyapeeth. Akola.

The following universities are considering the question of developing question banks:

Calcutta, N.E. Hill, Shillong, Punjabi, Sambalpur, Gwalior, Ranchi, Patna, Saurashtra and Marathwada Agricultural University.

3. Present position of Grading in Indian Universities

There are different grade point systems followed in various universities in India. Available information with the Research Cell, Association of Indian Universities shows that 44 universities in the country have adopted the grading system. Some of these universities have the grading system only in certain faculties. Even in universities which have adopted the grading system different grade point systems are followed.

They are eleven point, ten point, nine point, seven point, six point, five point and four point-grade system. Some universities are still following the marks system and they have not yet started adopting grading system. Details of grading systems of various universities according to their point scale are given below:

I. Eleven point grading

1. M.S. University of Baroda: Only in the following faculties, eleven point grade system is followed:

(a) Faculty of Engineering and Technology, (b) Faculty of Law, (c) Faculty of Education, (d) Faculty of Psychology. The grades and their corresponding points are:

Grades: A+; A; A—; B+; B; B—; C+; C; C—; D; E;

Points 10 9 8 7 6 5 4 3 2 1 0

II. Ten point grading

1. J.N.U. New Delhi: The students of this university are graded by the teacher on the following ten point scale:

Grades:	A+	A	A—	B+	B	B—	C+	C	C—	F;
Numerical Value	9	8	7	6	5	4	3	2	1	0

III. Nine point grading

1. J.N. Technological University: The Students of this University are classified into nine groups based on the marks as shown below:

Marks	Letter grade	Grade point
91—100	A+	10
81—90	A	9
71—80	A—	8
61—70	B+	7
51—60	B	6
41—50	B—	5
31—40	C	4
21—30	D	3
Below 30	E	2

IV Seven point grading

The following are the universities adopting seven point scale:

1. Agra University
2. Tata Institute of Social Sciences
3. Madras University
4. South Gujarat University
5. Vikram University
6. S.N.D.T. Women's University
7. University of Poona
8. Madurai University

A general pattern of seven point grade system is given below:

Percentage of marks	Grade	Grade point
88—100	O (Outstanding)	6
70—75	A (Very Good)	5
60—69	B (Good)	4
50—59	C (Fair)	3
40—49	D (Average)	2
30—39	E (Below average)	1
0—29	F (Poor)	0

V. Six point grading

In every course taken by a student he/she is assigned a grade based on his/her combined performance in all the assessment. These grades are described by the letters : A, B, C, D, E, F which carry a qnalitative assessment as well as a number equivalent called the grade point as given below:

Qualitative Grade	Grade	Grade point
Excellent	A	10
Good	B	8
Fair	C	6
Satisfactory	D	4
Poor	E	2
Very Poor	F	0

VI. Five point grading

The following are the universities adopting five point scale:

1. Aligarh Muslim University
2. Andhra University
3. A.P. Agricultural University
4. G.B. Pant University of Agriculture and Technology
5. Jadavpur University
6. Some faculties of M.S. University of Baroda
7. Panjab University
8. Sardar Patel University
9. Saugar University (UG Courses only)
10. Udaipur University
11. B.I.T.S.. Pilani
12. C.I.E. & F.L. Hyderabad
13. I.I.S. Bangalore
14. I.I.T., Kanpur
15. I.I.T., Delhi
16. Tamil Nadu Agriculture
17. Marathwada Agriculture
18. Punjab Rao Krishi Vidyapeeth
19. J.N. Krishi Vishvavidyalaya
20. C.S. Azad University of Agriculture & Technology (for U.G. courses only)

There are about two or three forms of five point grade system. They are given below:

(I) %of marks obtained	Grade	Significance	Points
91—100	A	Excellent	4
80—89	B	Good	3
70—79	C	Fair	2
60—69	D	Pass but not satisfactory	1
60	F	Failed	0

(II) Grade	Classification	Grade point
A	Excellent	5
B	Very good	4
C	Good	3
D	Fair	2
E	Unsatisfactory	0

(III) Letter Grade	Performance	Grade point
A	Excellent	10
B	Good	8
C	Fair	6
D	Poor	4
E	Exposed	2

VII. Four point grading

The following are the Universities adopting four point grade system.

1. Gujarat Agricultural University
2. C.S. Azad University of Agriculture and Technology (only P.G. courses)
3. Udaipur University (only P.G. courses)
4. Panjab University

The grade system in these universities are assigned by the weighted score as follows:

Grade	Significance	Value
A	Excellent	4
B	Good	3
C	Pass	2
F	Failure/Absence	0

From the available information, it is noticed that the following Universities are still following the marking system :

1. Indira Kala Sangeet Vishwavidyalaya
2. Meerut University
3. M.S. University of Baroda
4. Mysore University
5. Osmania Universiiy
6. Sri Venkateswara University
7. Saurashtra University
8. University of Indore
9. University of Jodhpur
10. University of Bombay.

Semester system is in vogue in 68 universities, 5 institutions deemed to be universities and all the 14 agricultural and technological universities. Some of the agricultural universities are on the trimester system.

It is not more than 10-12 universities that the unit system of courses has been introduced. In a fairly large number of universities, the semester system is being tried out in the professional and specialized courses only.

STATUS REPORT AND FUTURE PROJECTIONS OF THE RESEARCH CELL (EXAMS)

A. Research

1. Projects already completed

- *1. A Scientific and Rational design of Grading System
- *2. A Scientific and Rational design of Question Banking System
- *3. A Scientific and Rational design of Internal Assessment System
- *4. An investigation into test and item analysis
- *5. A Scientific and Rational design of Semester System
- *6. An Investigation into practical Examinations
- *7. A Scientific and Rational design of question banking in English Language and Literature

**Monographs giving detailed analysis of these Researches have been published already.*

2. Projects in progress

8. An investigation into Aptitude/Admission tests for various courses
9. An investigation into sample-free item analysis techniques
10. Syllabus analysis
11. Moderation procedures and grace marks in examinations

3. Proposed Research Projects for the Sixth Five Year Plan Period

Areas (1) Curriculum (improving, designing and restructuring)
(2) Forms/Methods of Teaching/Learning
(3) Validity/Reliability Studies on University Examinations
(4) Cost analysis of university examinations
(5) University administration and structure

B. Development

1. Projects already completed

*Phase I—Question Banks in 10 subjects at the First degree level (Mathematics, Physics, Chemistry, Zoology, Botany, Psychology, Geography, History, Economics and Commerce)

*Phase II—Question Banks in 3 subjects at the First degree level (Political Science, Foods and Nutrition and Sociology)

**A Book Series one in each subject has been published.*

A system on cards in Kardex trays is also available.

2. Projects in progress: *Phase II-Question Banks in 10 more subjects at *First Degree level* (English Language & Literature, Library Classification, Constitutional Law, Law of Contracts, Anatomy, Physiology, Pharmacology, Electrical Power System, Automobile Engineering and Strength of Materials) and 2 at *Postgraduate Level* (English Language and Literature and Mathematics) are being developed.

**A book series one in each subject will be published in a phased manner from now.*

3. Proposed projects for the Sixth Five Year Plan

1) For the subjects in phase I, 'field trial' will be undertaken (to find item facility and item discrimination) at various universities.

2) Comparison of results of (1) in various universities.

3) Phase II subjects will be completed by March, 1979

4) Further subjects will be taken up for the development of Question Bank phase III during the Sixth Plan.

5) For the subjects in phase II, field trial will be undertaken from March 1979.

6) Addition to phase I and phase II will also be undertaken.

C. Case Studies

Projects already Completed

The following are the topics in which thirteen case studies were conducted and have been reported in the form of three Research Abstracts:

Research Abstract-I

First Study—On the optimum number of choices in Multiple choice items.

Second Study—The number of options as a variable in multiple choice items.

Third Study—A comparative study of Facility and Discrimination values of multiple choice item tests with varying options.

Fourth Study—Facility value and Discrimination index of supply type questions.

Research Abstract-II

Fifth Study—On the reliability of ratings in interviews.

Sixth Study—Question choice in examinations

Seventh Study—Simplified methods of test and item analysis

Eighth Study—A comparative study of reliability of objective type examinations.

Ninth Study—A comparative study of reliability of choice type examinations.

Research Abstract-III

Tenth Study—Computer generation of equivalent multiple choice items.

Eleventh Study—Computer in storing and retrieving question banks.

Twelfth Study—Random Matrices Generation.

Thirteenth Study—Computer programme for analysis of objective type test.

2) Analysis of examination results
3) Operation of question banks

Project in progress

4) Effectiveness of admission procedures
5) Experimental quality control of selection type items
6) Computer in examinations

D Training & Extension

Work Done: 1) Training courses in question Banking, Internal Assessment, Grading and Semester System for staff of universities/colleges/institutions. In all nearly 120 such courses have been conducted in as many as 40 universities.

2. Training courses for administrators in the Examination sections in universities.

In progress: 1) A number of training courses in Question Banking, Internal Assessment. Question banking is being organised and conducted in various universities.

2. Workshops for implementation of Question Bank are being organised.

Proposed work during the Sixth Five Year Plan

1. Short duration courses/workshops at various universities.

2. Leadership training programmes of Faculty/Administrators in various universities in the areas of Question Banking, Internal Assessment/Grading, Semester System, Restructuring of courses etc.

3. Special workshops for staff of Examination Reform Cell and units.

4. Special Workshops for Boards of Studies Members/Controllers of Examinations.

5. Correspondence Courses (Basic, Intermediate and advanced level) in the area of Evaluation to staff from various universities with 'contact' programmes. This will be started from April, 1979.

E. Information Dissemination

Work already completed

1. Select Bibliographies/documentation in the areas of Question Banking, Internal Assessment/Grading, Test and Item Analysis.
2. Monographs in the areas Question Banking, Grading, Internal Assessment and Test & Item Analysis, Question Bank on English language & Literature.
3. Question Bank books in 10 subjects phase I 3 subjects phase II.
4. Publishing other titles :
   a) The Management of Examinations
   b) Towards better questions (Item 'Writers' Cookbook)
5. Monographs in the areas of (a) Semester system for universities, (b) Practical Examinations.

In progress

1. (a) Aptitude/Admission test
   b) Sample free item analysis.
2. Question Bank books in 12 more subjects (a) English Language & Literature (b) Library classification, (c) Law of Contracts (d) Anatomy (e) Physiology (f) Pharmacology (g) Electrical Power System (h) Automobile Engineering (i) Strength of Materials (j) English Language and Literature (PG), and (k) Mathematics (PG).
3. Publishing other titles : (a) Computer in Examinations.

Proposed work during the Sixth Five Year Plan

1. Monographs as detailed in (1) above
2. Question Bank books in the 12 subjects mentioned in (2) above.
3. Updating 'editions' of Question Banks already published.
4. Abstracts
5. Bulletin
6. Starting a 'Journal on Evaluation in Higher Education'

F. Consultancy & Services

Already completed

1. Analysis of examinations of Delhi, Madurai, Madras and many other universities.
2. Helping UPSC, AIACHE, CBSE, NCERT in solving problems.

In progress

1. Analysing examination results of universities.
2. Helping UPSC, AIACHE and Staff Selection Commission, in their work.

Proposed work during the Sixth Five Year Plan

1. designing, developing courses for universities
2. designing admission tests
3. designing systems (grading/internal assessment semester)
4. computer analysis of examination marks. □

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Universities and National Development

—Linkage with Environment

R. Sudarsanam*

There is no gainsaying the fact that the universities as a generator of new technologies, a source of broader horizons, a focus for modern organization and management and new behavioural patterns should get directly involved in the processes of National Development. In practice, it amounts to saying that the universities should give up, if it has not already done, an ivory-tower attitude of isolation and detachment from the seething life, its expectations, needs and problems outside the portals of the universities, and become very much part of it, the environment which feeds and sustains the universities in all its activities. In this, the universities have to remember two basic things : (a) The universities identify the immediate and distant needs of its environment (the people, the region, the nation and all their institutions), discover or develop ways and means of fulfilling them, make available the means wherever the needs exist and help in the peaceful transformation of the 'needs-affected' situations into 'needs-fulfilment'. (b) All the universities are service-institutions at the national and regional level. and as such, are to behave cooperatively and not competitively, which means that the universities serve to wean the people of regionalism and parochialism and to develop democratic means to fight against any forms of self-interested exploitation, aggrandisement, etc. It is proposed here to take up these two things briefly, and see what we can do about them.

The first deals with the need-fulfilling functions of the University. The universities normally attempt to discharge this function through three-fold activities, viz. teaching, research and extension education. The Tamil Nadu Agricultural University, for instance, has implemented since 1972, trimester system of teaching to suit the needs of the rural students and to develop and offer suitable skill-based content courses covering the whole of modern agricultural technology. Exercises in curricular revisions take place every three years in order to update the courses, to provide a number of optionals and alternatives and to respond to new needs in the society. Even the courses offered in the dapartments in the Faculty of Basic Sciences and Humanities—departments parallel to those in general universities, have been formulated in relation to the specific needs of the students, and the nature of the subjects. For instance, English is taught as a library/source language for learning science and technology through the medium of English while Tamil (Regional language) as a language of communication for extension education.

Similarly, every research project in progress in Tamil Nadu Agricultural University is formulated in terms of felt-needs ; in certain areas the 'needs' are identified by the faculty members. and in others, by the staff working in the extension wing, and other institutions of the university like the Farm Advisory Council, the Extension Education Council and the Research Council. Majority of the research projects are 'applied' in nature and 'time-bound' ; while, a few are related to 'fundamental' issues. Again, referring back to the illustration of the work of departments of English and Tamil—I choose them because to many, they will appear to be irrelevant in agricultural universities, their research projects are (1) Sociolinguistic studies of the farmer's language (2) A study of the linguistic factors in successful classroom and extension educational communication (3) Activity method for teaching study skills and language skills for the most backward students . This is only to indicate how suitable need-based curricular exercises are possible and necessary to serve the objectives of National Development.

Every agricultural university will have a well developed network of agencies for carrying out extension education activities. The Farm Advisory Council acts as a two-way channel between the 'needy' farmers and the 'needy' Scientists, the 'needs' of the farmers being immediate solutions for their problems, and the 'needs' of the Scientists being 'the field-problems' requiring to be tackled through research, the farmers' training centres offer location-specific skill-based training programmes (one day training to 3-5 days training) for the farmers.

Well, my interest in giving a glimpse of the activities of the Agricultural University is only to show how the agricultural universities, in general, are completely involved in understanding their environment, their opportunities, resources and constraints in the processes of its development and, in turn, in the ways and means of national development. Incidentally, one may note that all these activities—teaching, research and extension education get linked up with the environment in an integrated manner.

The general or conventional universities can certainly or should necessarily develop similar ways and means of linking themselves with their immediate environment functionally and the national development ultimately. But then, the general universities in the given region do not have any identified roles like those for agricultural universities. Further, majority of those regional universities, are of the affiliating type with their consequent dilution of their effective influence owing to multiplicity of controlling heads—governmental, political, social and managerial. So, the first thing is (a) to identify specific roles for each university in a region, in terms of 'felt-needs' other than in agriculture and allied subjects, (b) to help the universities to diversify their teaching (and curriculum), research and extension education activities (c) *to work in cooperation* with one another, central institutes, industries, Government's developmental agencies etc. for giving the necessary national perspectives for our students and for our National Service Scheme activities, work experience programmes etc, and (d) to demark these functions in concrete forms in respect of autonomous institutions also.

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What is required is not only inter-disciplinary, need based activities but inter-university, inter-institutional cooperation in identifying specific roles for one *another in a* given region and cooperating with one another in discharging these roles without any overlap, duplication or competition. As a number of developmental areas have already been identified by the governments at the State and National levels, it would not be difficult for all the universities in a region to sit together and come to an understanding. This will incidentally develop a positive linkage between the universities and the State and the Central Governments leading to a recognition of the utility of the universities and a *refusal to* use financial controls for eroding the autonomy of the university. A fruitful interdependence between the universities and the Government may emerge out of this, paving way for greater freedom for the universities from political interference, and for recognition of the value of academic standards, merit and respect for excellence. Until the roles are identified, and suitable curricular and research programmes are initiated, the public apathy in respect of university education and management, for values for higher excellence and merit and for the students' *false notions as to the employment* value for their degrees will continue.

I do not advocate that all is well with the agricultural universities ; I mentioned this only as a starting point to deal with the problems of developing a meaningful and mutually benefiting linkage between the universities and the *immediate* environment. In the case of agricultural universities, it consists of the resources, opportunities and the needs of its clientele, the farmers. But one of the things that is overlooked in agricultural universities and general universities alike relates to (a) the needs and problems of the students as learners (class room climate, large classes/small classes etc.) in terms of their socio-economic backgrounds and (b) their needs to inculcate new value-systems essential for creating, sustaining and developing an awareness for and a means of national development. This, I consider, is very important as otherwise what will stay with us will be enlightened regionalism, baseless prejudices anti-secular conservatism and societies of acritical adaptive sub-human persons. So what is required is not a prescriptive or descriptive forms of teaching but one of generative-transformation giving the learners not only the skills of 'self-learning' but also the means and methods of critically reflecting on the worth of everything available and acting upon the institutions of the society for its better.

What we need to-day is, to use the term of Paulo Friere, to 'Conscientize' our students in respect of their existence (needs, problems) etc.), their objectives etc. and to 'chamelise' their 'critical transitive consciousness' (which Paulo Friere calls conscientization') along democratic ways of achieving the ever growing objectives (concretization in reality). It is only in dialogues that people learn to verbalize their needs, to become conscious of the problems of mutual value and to learn to reflect. Reflection is essentially a relationship of cause and effect, and it enables one to transcend constraints like the 'to-day' (temporal), 'this place' (spatial) and the 'mine' (the egoistic) without losing either the present or the *past but very much acting upon them and becoming* aware of facts of the 'to-morrow' (temporal), the 'far-off' (spatial) and the basic humanity (the socialistic). So reflective or problem-posing dialogue is the means to awaken and develop the critical transitive consciousness in our students (the citizens of tomorrow), without which their participation in learning and national development, in spite of their participation in activities of the NSS, NCC, Adult Education programmes will cease to have any long-lasting value or to act as a leverage for sustained *socio-economic transformation of our nation.*

If our Universities should tune their activities in order to 'conscientize' our students in relation to their needs, and the expectations of the 'wider' environment in which they grow, develop, and act upon, the teacher should be versatile in the ways of involving them in problem-solving dialogic encounters. This means that we should train our University teachers in the principles of learning-teaching, and methods of developing a 'critical' transitive creative citizen out of an acritical intransitive adaptive individual. We would do well to accept the importance of formal training in 'Learning and Teaching' for all the members of staff in the University departments. A number of in-service programmes in 'learning-teaching' for the teachers in Universities appears necessary. This necessity will be acutely felt as more and more first-generation learners from rural centres, backward communities and tribes enter our Universities for higher education.

A few Universities have become aware of these problems, and have started running courses in learning-teaching; but there has not been a concerted effort to develop the required insights, forms and approaches to fulfil this need properly, The existing teacher institutions and educational departments are more concerned with training high school teachers, etc. *and are manned by mostly people who may have* little experience of teaching in the colleges and Universities, in the sense that their teaching is restricted to graduate trainees. Every University department should utilise the services of the education department, and develop suitable ways and methods of helping the students learn not only their 'subjects' but their socio-economic relevance in life in general, in the 'interests' of the nation in particular, the required new 'value-system', and the necessary skills and abilities for democratic participation for sustained national development. Let us make our university teachers become more enlightened teachers, and towards this end, let us explore for the ways and means. ☐

CONVOCATION

Strengthening of agricultural research programmes

We must always remember that agriculture is the mainstay of our national economy on which depends the well-being of the people. It is still the largest industry in India and contributes 50 per cent to the G. N. P. Therefore, it is imperative that all our thinking and planning for the new schemes and projects must keep in sight the needs of agriculture and of the 3/4th of our population who live in the rural areas.

To diversify the cereal based economy it would be necessary to undertake research on systems of farming where cereal farming could be integrated with high value vegetable and fruit crops and livestock production. Small farmers need to be guided on what system of farming they should follow to increase their income and improve their life.

There is need for greater emphasis on problem oriented research. As a result of intensive cropping the basic fertility status of the soil is being exhausted at a much faster rate. The research work on soil fertility problems on crop rotation basis rather than single crop basis needs to be stepped up. A good nitrogen fixation system should also be worked out which will go a long way in increasing the yield of crops, especially that of legume crops. Suitable methods must be found to maintain the productivity of the soil and to reduce the cost of production.

Due to intensive cropping and water use, the diseases and pests are making their appearance. Therefore, in the crop improvement programme, greater emphasis will have to be placed on the evolving of the disease and insect resistant varieties. The losses from the attack of diseases, insect-pest and weeds are tremendous. New control measures and new strategies for pest management are in constant demand.

All efforts need be made for increasing milk production. Milch animals are very costly particularly cross-bred cows. They are also susceptible to diseases. Thay have to be provided a better health cover. This calls for strengthening of research programmes on disease investigation and control measures. The research on evolving nutrient fodder varieties also needs be stepped up.

The surpluses of cereals, potatoes, vegetables, etc. will demand proper handling so that the farmers get remunerative prices. The enlightened farmers of Punjap are now ready for diversification to horticulture, dairying and poultry in agriculture which will be facilitated by the increasing amounts of rural credit available. Concurrently, market studies will be needed for the sale of perishable foods in the outside markets in the country and abroad. Moreover, production of food crops is going to increase tremendously in other areas of India which have traditionally been experiencing deficits. Since wheat is surplus throughout the world, avenues of its export might remain rather limited. At the same time, there would be greater markets in Middle-East and other deficit areas for quality bread-wheats. Even rice that we produce is not processed properly to suit the needs of the people in the deficit areas. Now our effort should be to produce fine vareties of rice for which there is an almost unlimited market in the Middle-East and in the western countries.

Another shift in the future farming would be dairying and the processing of milk. At present about 20 per cent of the cultivated area is under fodders and a 30 per cent increase should be expected in the next few years. This, of course, has to keep pace with the production of hybrid cattle and the improvement of buffalo stocks. When we talk of dairy and poultery farming, it is inherently implied that the oilseed cake, the rice bran and other feeds are utilised within the state rather than exported to other areas of Indir with added transport costs.

The fate of potato crop this year has already become the cause of concern for us all. Obviously, it is not enough to produce the perishable foods but their well organised handling and marketing is equally important. Therefore, we can see that we cannot talk of diversification of agriculture without looking for outside markets and studying the needs of the people in the deficit areas. We seek guidance from the agricultural scientists as to what should be our outlook on farming in the future.

Where sound advice and correct policy sets the pace of agricultural development, the farmers are ever ready to take initiative and the government too will provide the necessary assistance. I have already geared up the government machinery for implementing the new programme of Integrated Rural Development. Apart from improving the General economic condition of the rural people, it is also intended that the people in the rural areas should get all the necessities and conveniences of modern life as close to their homes as possible. It also aims at providing more employment so that workers don't have to move to cities in search of jobs. If we plan thoughtfully, and work hard we can set an example of stabilization of population which will become a model for the entire world. [**Excerpts from the convocation address delivered by Shri Prakash Singh Badal, Chief Minister of Punjab, at the Punjab Agricultural University, Ludhiana.**]

CAMPUS NEWS

All India Conference of Dravidian Linguists

Delivering the presidential address at the ninth All-India Conference of Dravidian Linguists held recently in Calicut University, Dr. A. Chandrasekhar, Professor of Linguistics at the Delhi University has questioned the Dravidian theory of Indus Valley Civilization propounded by historians. There were historical inconsistencies in the theory that the Dravidians had spread all over India in prehistoric times and had developed a city civilization and a writing system indicating the high order of their culture before the advent of the Aryans. Dr. Chandrasekhar said that with the Dravidian theory as base several scholars had assumed the written records found in the Indus Valley excavations to be in a Dravidian language. The biggest impediment in assuming that the people who had built up the oldest known civilization of the Indian subcontinent were the ancestors of the present Dravidian speakers of the country was the absence of cultural continuity. The Brahmi script that was developed in North India had a continuous history and such continuity was not found in the Indus Valley script. The Dravidian speakers originally did not constitute a racially homogeneous group and there was no relationship between race and language.

Dr. Javare Gowda, former Vice-Chancellor of Mysore University commended in his inaugural address the use of either Kannada Telugu or Tamil-Malayalam scripts by sister languages. He said powerful languages like Tulu, Kodagu and Gondi would be forgotton if precautionary measures to resuscitate them were not adopted. It would be in the interest of the cultivated language to make a survey, collection analysis and study of the uncultivated languages. He suggested that Dravidian studies could be introduced at the degree level in the universities in lieu of a language subject.

Dr. P. C. Chunder, Union Education Minister in his message said that the different families of languages had contributed in the linguistic and literary development and had made India one linguistic area. He hoped that the conference would play a vital role in bringing about unity between languages and people.

Earlier Prof. N. Purushothaman, Acting Vice-Chancellor of Calicut University, welcomed the delegates. About hundred delegates attended the three-day conference which discussed eighty papers in its four sessions.

Orientation to management education proposed

Dr. M. S. Swaminathan, Union Agriculture Secretary, addressed recently the annual convocation of the Indian Institute of Management, Bangalore. He said there was urgent need for effective management of land, water, air and sunlight resources based on integrated principles of ecology and economics. He stressed the need for giving an orientation to management training and education which would enable the development of a cadre of managers well grounded in the principles of social and scientific synergy. He asked the management specialists to develop a methodology to utilise soil and water resources in such a manner that need of the present and the future did not come into conflict. The challenge before the country was to bring about continuous improvement in productivity without a substantial rise in the consumption of non-renewable forms of energy.

Shri Govind Narain, State Governor, asked the awardees to augment the task of productivity. He stressed the need for application of management principles in their activities.

Prof N. S. Ramaswamy, Director of the Institute said the union government was actively considering the proposal for setting up an Animal Energy Develepment Board. The project for preparing a documentation manual on animal and carts was expected to be completed by mid 1980. The Food and Agricultural Organisation had evinced a keen interest in the development of animal energy resources in view of its possible relevance to developing countries. The Institute would introduce national programme for social service workers soon.

Short term courses at IIT Bombay

The Indian Institute of Technology, Bombay, proposes to conduct seventeen industry-oriented short term courses during 1979. The courses will be residential. The following topics have been selected for this purpose: SPSS in Business, Data processing, Corporate Capital Budgeting, Waste Diffusion in Aquatic/Marine Environment, Non-Destructive Testing of Concrete, Workshop on Bearings for Industry, Application of ICs to Industry, Analysis and Synthesis of Mechanism, Industrial Hydraulics and Hydraulic Controls, Analysis and Design of Machine Foundations, Organisation and Management of Health Services in Rural Areas, Switchgear Principles and High Voltage Testing, Computer-Aided Design of R. C. Structures, Instrumental Methods of Analysis, Aerodynamics and its Applications, Workshop on Electron Optical Techniques, Industrial Mineralogy, Computer Programming and System Design for Business Applications and Microprocessors in Industrial Applications.

Manpower planning

While speaking at the concluding session of the summer lecture series organised by the Department of Business Administrtion in Lucknow University, Shri S. Mitra of Union Carbide said that man-power planning was one of the most important factors of industry and proper recruitment and development of its personnel were the main ingredients on which a manager had to lay stress. The location of an industry should be at such a place where suitable manpower is available.

Dr. L. D. Joshi, Head of the Department of Business Administration at the University said the lactures were organised mainly for the benefit of MBA students so that they could keep in touch with the practising managers. The students were exposed to the practical aspects of business environment in the country. Eminent persons from industry spoke on different disciplines of management in the six day lecture series.

Facilities for girls' education

The three-day National Conference on Women and Development held recently in New Delhi has recommanded that education should be actively-oriented and should be suited to the geographical and environmental needs of the community.

The recommandations were made to the conference by its committee on Education which considered, inter alia, the problem of girl drop outs. The Committee felt that schooling facilities should be increased in those areas where schools were at present at a distance of more than three kilometers to retain girls in schools. It was necessary to develop materials suited to the needs of the children.

The Committee suggested that literacy should be functional for women so that it can bring them money and the education programme should be linked with village industries.

The Vice-president, Shri B. D. Jatti who delivered the valedictory address said that constitutional guarantees and legal rights for women should become a reality. It was necessary to secure for every child the education that the Government is committed to give. Shri Jatti said special attention should be paid to the needs of women in the rural and backward areas so that they could make use of the health services already available. Any strategy for women's development will also have to pay a special attention to increase participation by women in economic activity. The Vice President hoped that the conference will be able to generate a force which will secure for every women justice in social, economic and political spheres on equal footing with men.

Scientific development for masses

Inaugurating the Acharya Jagadish Chandra Bose Centenary Laboratory building in Calcutta recently Prime Minister, Shri Morarji Desai said that scientifc and technological development in the country would be meaningless unless the benefits of innovations reached the weaker sections of society. Efforts should be made to provide atleast the basic needs to the teeming millions living in the villages. The Prime Minister advised scientists to devote their efforts to the welfare of the rural masses simultaneous with the development of basic sciences. The scientists should evolve practices which would provide a low cost, low energy consuming and pollution free economic system. Efforts should be made to make better use of solar energy, water and land resources and to utilise gainfully the vast human resources available in the country.

Dr. P.C. Chunder, Union Education Minister called upon the scientists in the country to imbibe in them the spirit of dedication of Acharya J. C. Bose. He said that provision of physical facilities would not deliver the goods unless there was sincerity and devotion.

Chief Minister, Shri Jyoti Basu urged the teachers, research workers and staff of the Institute to work in close coordination to bring about over all improvement.

Dr. Atma Ram, Chairman of the National Committee on Science and Technology said the organisational phase of science has now given place to the next phase of assessing benefits from science. He suggested that the Institute should also take up research work in genetic engineering which offered thrilling opportunities for the future.

Research on ecology of birds

Delivering the presidential address at the All-India Summer Institute on Economic Ornithology at the Agricultural College in Hyderabad, Dr. J. Raghotham Reddy, Vice-Chancellor of Andhra Pradesh Agricultural University made an appeal for affection towards birds and development of an effective system of control methods without disturbing the ecology. There should not be undue cruelty to birds although they created inconvenient situations to the farmers and their operations. Dr. Reddy called for maintaining an agro-ecological balance while trying to control the birds which posed certain problems for the farmer.

Dr. G. Rangaswami, Director of the National Academy for Agricultural Research Management in his inaugural address stressed the need to conduct qualitative and quantitative studies to determine the birdpest damages caused to the various crops. There was need to learn more about the ecology of birds vis-a-vis the inter relationship between the bird species host preferences and their seasonal movements to estimate the losses. Dr. Rangaswami called upon the participants to learn bird management techniques and their control methods which should not interfere with the environmental biological system.

Dr. Mir Hamid Ali, Director of the Summer Institute outlined the ornithological studies undertaken in the country. The photographic technology has helped in making penetrating observations on habits and biology of various bird species. He said that various studies in taxonomy and morphology of the birds have been made by the Zoological Survey of India, Bombay Natural History Society and at the Calicut and Baroda Universities.

ICSSR research programmes

The Indian Council of Social Science Research which has been conducting a number of research methodology courses will add eight new courses during the current year. The annual report for the year 1978-79 of the Council has recorded that seventy-seven projects were sanctioned during the year and one hundred ten fellowships at national and post-doctoral levels were awarded. The Council continues to cooperate with other countries in cultural exchange programmes. It had provided financial assistance to twenty-two Indian social scientists to visit other countries and to seven foreign scientists for visiting India.

Research centre on sources of energy

A research and development centre for evolving relevant technologies for effective utilisation of renewable sources of energy as well as for efficient use of conventional sources of energy has been set up by Jyoti Limited in a village in Baroda. The centre with a team of forty scientists, engineers and economists will make an effort towards the application of solar energy, wind energy and bio-gas plants. The centre has specially designed laboratories, technical library with micro-processor unit and a solar pond. The complex will have sufficient capacity to meet the requirements of the village. The complex was inaugurated recently by Shri H.M. Patel, Union Home Minister.

Study of Sanskrit

The third Tamil Nadu State Sanskrit Conference held recently in Madurai has urged the State Government to include sanskrit in the school curriculum. The study of sanskrit at higher level could not be meaningful unless the students were equipped with a good foundation, background and knowledge. The conference resolved to request the Institutions devoted to the study of sanskrit to publish important classics with translation in regional languages for the benefit of the common man.

Students scholarships for weaker sections

The Union Ministry of Steel and Mines has introduced a scheme for award of scholarships to deserving students belonging to the weaker sections to pursue their studies in geology at B.Sc. and M.Sc. levels. The scheme provides for scholarships of the value of Rs 250/- each per month at the B.Sc. level and Rs 300/- per month at M.Sc. level. The candidates on successful completion of their studies are expected to be absorbed against various reserved vacancies in the cadres of Geological Survey of India.

HAU research programme on child welfare

The Department of Child Development of the College of Home Science of Haryana Agricultural University will conduct a special research programme on welfare of children to celebrate the International Year of the Child. The projects will include a survey on existing conditions of child labour in the district and preliminary health surveys to find out the utilization of existing child health services in the state. A summer school will be organised on child nutritition and studies of the food consumption pattern of pre-school children in the different soil zones of Haryana will also be conducted by the Department. Dr. P. S. Lamba, Vice-Chancellor of the University said that a child welfare committee and child welfare funds were being constituted in the university to benefit the average child and for the children living in villages.

Promotion of sports

The Union Ministry of Education has liberalised the financial provisions, incentives and its assistance to the State Governments and Union Territories for development of sports and physical education. Financial assistance to state governments for purchase of sports equipment, construction of stadia, swimming pools in hilly areas and amount of honorarium paid to teachers in the rural sports centres have also been raised.

Centralised evaluation in UP Varsities

Shri Shivanand Nautiyal Uttar Pradesh Minister for Higher Education said recently in Lucknow that the Government had decided to regularize the academic session of all the state universities. Examinations in these universities will be completed during September-October and the results would be compiled through central evaluation so that the new session could be started without much loss of time. The Minister said that where courses had not been completed, assistance would be sought from teachers who would be suitably compensated for the extra work put in during vacation.

Winter school on crystallographic computing

The Indian Institute of Science, Bangalore in association with the Commission on Crystallographic Computing of the International Union of Crystallography will organise the winter school on crystallographic computing during January 1980. The tentative list of topics to be discussed include patterson methods, direct methods, refinements, fast fourier transforms, thermal vibrations, electron density measurements, microdensitometry, computer graphics', mini computers, molecular confirmation, macromolecular and programme packages. The lectures which were presented at the school will be published. The details of the programmme can be obtained from Dr. K. Venkatesan of the Department of Organic Chemistry of the Institute in Bangalore-560012.

World Sanskrit conference

The fourth World Sanskrit Conference was held recently at Weimar in East Germany to analyse how far the study of sanskrit and its literature can be significant to scientific disciplines. The themes discussed at the conference included social development in pre-capitalist India, the role played by sanskrit in India's past and present and position of the language and its culture in world history. An exhibition on Indian culture was also organised on the occasion.

The newly elected President of the Association. Prof. R. N. Dandekar said at the concluding session that Weimar conference had opened new vistas and given fresh impetus to sanskrit studies. It was announced that fifth world conference will be held in New-Delhi in 1982,

About 180 lectures were delivered and discussed at the plenary and section meetings. The conference was organised by the International Association of Sanskrit Studies and its participants included representatives from India, the Soviet Union, the U.S.A, East Germany, France, West Germany, Italy and Japan.

ICAR research centres in Andaman island

The Indian Council of Agricultural Research has set up a Central Agricultural Research Institute to provide a sound research base to the various farming systems in the Andaman and Nicobar islands and to exploit its vast production potential. The Council proposes to establish in the island a Germ Plasma bank for coconuts and two other research centres for work on tropical crops and livestock. The agricultural scientists feel that the group of over 500 islands in the Bay of Bengal have agro-climatic conditions ideal for crop spices, horticulture and dairying. The sea water around the islands abound in fish and other marine wealth. It is thought that the region is a 'veritable goldmine' for agriculture scientists. The islands could be converted into a major supplier of spices, fruits, dairy products and fish to the mainland, if developed properly.

Observance of sports year suggested

Addressing the concluding session of the sports seminar on the national policy on sports organised recently in Jabalpur, Shri Dhanna Singh Gulshan, Union Minister of State for Education and Social Welfare suggested that 1980 be observed as sports year throughout the country. The observance of the sports year would boost the morale of sportsmen and help them to render better performances during the 1982 Asian Games to be held in India. The Minister said that there was enough talent in the country and if the sportsmen were provided proper training and were picked up at the right time they could become the world class sportsmen. He said that the Education Ministry had given guidelines to sports bodies in the country to improve the standards of sports.

Delhi Varsity plan for NCC

Delhi University has formulated a plan of action to encourage students to participate in National Cadet Corps activities during the next academic session. A recent meeting of the university authorities held under the chairmanship of the Dean of Colleges considered the question of falling enrolment in the NCC. The university has at present seven thousand cadets in fifty-three colleges affiliated to the university. The Navy and Air-Force wings of the NCC have gained popularity as against the falling enrolment in the Army wing. The university will institute trophies and prizes for winners of inter-university competitions in rifle training, archery, aeromodelling and other subjects of interest. Seminar will be organised on military history and war operations among other things. Practice facilities for shooting and archery will be provided at the clubs which could be used by NCC cadets in spare time as well.

IIS course on application of solar energy

The Indian Institute of Science, Bangalore, organised recently a three-week summer course on the application of solar energy for the benefit of scientific and academic institutions all over the country. The participants were exposed to various research and development programmes being conducted at different centres particularly in the field of solar radiation instrumentation, solar collectors and concentrators, storage and other devices for the utilisation and application of solar energy and other sources of renewable energy such as wind, biogas and hydrogen. The exhibition organised as an adjunct to the course displayed various devices and equipment that are being used in solar energy programmes.

Kurukshetra plans youth camps

The Youth Welfare Department of Kurukshetra University has finalised a programme for organising trekking and youth camps during the summer vacations. A trekking party of a group of thirty boys will leave for Pindari in the Nainital region on a twelve-day programme. The youth leadership training camps will be organised for boys and girls at the Mountaineering Institute, Manali. Another batch of forty students will participate in an advanced youth leadership training camp at Dalhousie.

NCST suggestions on rural development

The interim report of the technical sub-group on rural development of the National Committee on Science and Technology has suggested that rural development programme should be geared up to generate employment and to ensure the satisfaction of basic needs of nutrition, health and education to all classes of society. Generation of employment on a massive scale would depend on the transformation of agricultural sector through transfer and diffusion of new technology. Adoption of different cropping practices, proper management and development of water resources, labour intensive farm practices and increase in the intensity of labour absorption per acre of land would also help in finding the increased avenues of employment. Mass literacy, primary education, adult education and the dissemination of skills particularly for the socially handicapped people should be given high priority. The institutional approach should be replaced by a closer relationship between education and work. The Panel has suggested that there is need to pay attention in raising the education level of women to pave way for social reconstruction.

Bihar seminar on modernisation in politics

Presiding over the inaugural session of the seminar on Problems of Modernisation in Bihar Politics conducted recently by the Department of Political Science of Bihar University, Dr. Shakeelur Rahman, Vice-Chancellor said that politics without political consciousness was dangerous. He said that nation's interests and traditions must be given top priority in every kind of politics. We could not get a real political assessment without knowing psychology of the people and the process of political developments. Dr. Rahman said that the Department of Political Science should produce real politicians in true sense of the term.

Prof. R.C. Prasad, Head of the Political Science Department in Magadh University explained the concept of modernisation and said that India need not imitate the West in all respects. The country should evolve its own model of development and attempt should be made to avoid wastefulness which was associated with the western style of life.

Dr. U.S. Sadari, Professor of Political Science in Jawaharlal Nehru University outlined the disadvantages and the difficulties inherent in the study of state politics in India. He highlighted the importance of studying class forces operating in politics.

Dr. L. P. Sinha, Head of the Department of Political Science of the University welcomed the guests and said that the test of political science was its applicability and practicability. We should not forget that the poverty stricken and misery afflicted masses will be the true judge of a theory or an approach adopted by politicians.

The seminar was sponsored by the University Grants Commission and its participants included faculty members from the various universities in the country.

Summer institute for college librarians

A Summer Institute for college librarians was organised recently by the University of Kerala. Dr. V.K. Sukumaran Nayar, Vice-Chancellor of the University inaugurating the Summer Institute said that library facilities in colleges situated in areas outside city limits were not being utilised properly by students. The college students in these areas were eager to get back to their residences after college hours and did not avail of the benefits of the libraries. Commenting on the role of librarians, the Vice-Chancellor said that they had a new role to play in society in view of the changed concept of a Library. Dr. Nayar said that all major universities in the world had good libraries and some universities are known for their well stocked libraries.

The Institute was sponsored by the University Grants Commission. College librarians from the Universities of Kerala, Calicut and Madurai Kamaraj participated in the twenty-one day Summer Institute.

Kurukshetra Varsity organises Institute in linguistics

Dr. Vikas Mishra, Vice-Chancellor, Kurukshetra University delivered the valedictory address at the concluding session of the All-India Institute in Linguistics for college teachers organised recently by the Department of Linguistics of the University. He emphasised the significance of language for the intellectual growth of a society and said command over language was a precondition to any reasoned formulation.

The three week Institute was sponsored by the University Grants Commission and the participants included faculty members and repsesentatives from the universities/colleges in the states of Jammu and Kashmir, Punjab, Haryana, Delhi, Uttar Pradesh, Madhya Pradesh, Rajasthan and Gujarat. It was the first All India Institute in linguistics held in this part of the country.

INDIAN SCHOOL OF MINES

Indian school of Mines

DHANBAD-826004

No. 615002/79 **May 22, 1979**

CORRIGENDUM

In the Admission Notice issued on **January 29, 1979** it may be noted that—

(i) In admission to first year of the 5-year (10 Semester) programmes, the number of seats in B Tech (*Mining Machinery*) is raised from 10 to 20.

(ii) There may not be any admission to first year of 5-year M.Sc. programmes in Applied Geology and Applied Geophysics disciplines.

S. P. VARMA
REGISTRAR

Book exhibition

Inaugurating the book exhibition organised by the Mysore University in Bangalore recently, Shri B. Subbayya, Shetty, State Education Minister said that the state universities should constitute a coordination committee to avoid duplication in printing of books. The universities should assess the demand of books before printing to prevent excessive publication. It would be useful if educational institutions could decide on the relevance of various books to the society to give them suitable priority in the publication programmes.

Dr. Prabhu Shankar, Director, Mysore University Prasaranga welcomed the gathering and requested the government to set up networks for distribution of books to rural libraries.

About 1, 200 books in English and Kannada were displayed at the exhibition.

Akhil Bharat Nai Talim Sammelan

Prime Minister, Shri Morarji Desai inaugurated recently the Akhil Bharat Nai Talim Sammelan convened in Calcutta to discuss the Draft National Policy on Education. The Sammelan was of the consensus that some important points of the draft policy needed to be re-cast to serve the eighty per cent of the population who were untouched by the existing system of education. The task of education should be to develop a system responsive to the need of individual and society with particular emphasis on bringing all the under-privileged people within its purview. An integrated approach for development of body, mind and soul and teachers' participation in the process of evolving egalitarian society wedded to self-reliance and dignity of labour was favoured. It was felt that the task of recasting the content and reorienting the system should be adopted with a clear objective enunciated by Gandhiji. The Sammelan was of the view that the draft policy with particular reference to preamble, aim and content system needed to be specific and unambiguous to reflect the ideas of the large section of our people who had required fundamental changes in the existing system. It was further suggested that educational institutions and educational decisions should be kept free from interference so that education became the real national endeavour leading to national education.

Dr. P. C. Chunder, Union Education Minister, representatives of the Planning Commission, National Council of Educational Research & Training and others participated in the Sammelan.

Scholarships for study in Arab Republic of Egypt

The Union Ministry of Education and Social Welfare have invited applications for award of scholarships offered by the Government of Arab Republic of Egypt for postgrauduate/post-doctoral studies or research in the field of archaeology, museology, Arabic language and history. Candidates holding master's degree with a uniformly good acadamic record are eligible for these awards. The Department of Education of the

Indian school of Mines

DHANBAD-826004

No. 615028/79 **May 29, 1979**

Direct Admission-1979
For Rank-Holders Etc.

A limited number of seats in the first year of the 5-year Integrated Programme leading to the degrees of B Tech in (1) Mining Engineering, (2) Petroleum Engineering, (3) Mining Machinery and of Master *of Science in (1) Applied Geology and Applied Geophysics at the* Indian School of Mines, for the session 1979-80, are reserved for rank-holders in the examinations for Pre-University/Indian School *Certificate/Higher Secondary (or equivalent) with Chemistry,* Mathematics, Physics and English conducted by recognised Universities/ Boards and results announced in the month of August 1978 or afterwards.

2. Candidates who have secured at least 60 percent marks in **each** of the subjects of Physics, Chemistry and Mathematics and are within *the first* **ten ranks** *in the examination mentioned above, are eligible* to apply for admission under this category. However Scheduled Caste/Scheduled Tribe candidates who have obtained not less than 50 percent marks *(in aggregate)* in Physics, Chemistry and Mathematics, may also apply for admission.

Candidates who have already appeared for the ISM Entrance *Examination conducted this year may also apply for seats under this* category provided they satisfy the conditions mentioned above.

3. Only such candidates as were born on or after 1st October, *1958 are eligible for admission under this category.* The upper age limit is relaxable by three years in the case of candidates belonging to Scheduled Caste and Scheduled Tribes.

4. Detailed instructions and Application Form can be had from the Registrar, Indian School of Mines, Dhanbad-826004, by sending a Crossed Postal Order for Rs. 5/- only.

Applications in the prescribed form, complete in all respects including rank-holder certificate and marks-sheet, should reach the Registrar, Indian School of Mines, Dhanbad by **30th June, 1979.**

S. P. VARMA
REGISTRAR

Ministry in Shastri Bhawan, New-Delhi-110001 will entertain the completed applications on prescribed forms upto 30th June, 1979.

Reservation for rural candidates

The Maharshi Dayanand University, Rohtak has announced recently that 25 out of 115 seats for the next MBBS course at the university will be reserved for candidates from rural areas. The university also reserves seats for candidates belonging to scheduled castes/backward classes and children of deceased military personnel. The Registrar of the University said that students who had studied from primary to higher secondary stage in village schools which were outside the jurisdiction of any Municipality, Notified Area Committee or town Committee would be treated as candidates belonging to rural areas.

Centre for atmospheric sciences at IIT Delhi

The Indian Institute of Technology, Delhi, has set up a centre for Atmospheric Sciences under the Sixth Five-year Plan programmes. The Centre will take up the activities relating to application of Fluid Dynamics in areas of practical interest with special emphasis on atmospheric sciences. Projects of an inter-disciplinary and inter-institutional research have already been developed by the Centre. A scientific programme will be developed in collaboration with French and British Universities to support some of the research projects.

ICAR award for rural artisians

The Indian Council of Agricultural Research has instituted awards to be made for innovative contributions and indigenous technology developed or transferred by the farmers or rural artisians in the field of agriculture, animal husbandry and allied spheres. The award will be given to two farmers/artisans from each of the eight agroclimnatic regions of the country.

Revised courses for Delhi Varsity

The Academic Council of Delhi University has approved four revised courses in engineering, vocational studies, home science and chemistry. The engineering course has been revised to be at par with the IIT standards. The Chemistry pass course would continue to offer two papers instead of three as suggested by the department. It was also suggested that specialisation should be introduced at the pass course in the chemistry department.

A diploma course in journalism would also be started from next year. A committee has been set up to recommend various steps needed to start the course.

Madras Varsity to suspend admission to PG courses

The Madras University has decided to suspend admissions in the first year of the MA, MSc and MCom courses conducted in its departments as a temporary measure during the current academic session. This is being done in order to concentrate and help in organising the MPhil courses for a large number of candidates in the various faculties of the university. Dr. G.R. Damodaran. Vice-Chancellor of the university said that the temporary suspension of admission for this year would be in the disciplines and courses that were already available in a large number of postgraduate colleges where if necessary, a few additional seats could be sanctioned. The special subjects and specialisations under postgraduate courses for which there were no facilities in any of the postgraduate courses would be continued at the university. For this purpose the university was consulting its departments and the postgraduate colleges so as to finalise the list of courses to be suspended and to be continued. Surplus teachers, due to the shedding of the pre-university course by colleges, would be accommodated in the MPhil courses.

Sociology in BEd course

Teaching of Sociology at BEd level will be introduced in teacher-training colleges for the first time to facilitate training of Sociology teachers for the schools.

The new syllabus has been finalised by a team of more than fifty experts drawn from Jawaharlal Nehru University, Banaras Hindu University, Calcutta University, the National Council of Educational Research & Training (NCERT) and the faculty of various teacher-training colleges.

Twelfth Commonwealth Universities Congress

The *report about Proceedings* of the Twelfth Commonwealth Universities Congress held at Vancouver, Canada, from 21st to 25th of August 1978 has now been printed by the Association of Commonwealth Universities under the title *Pressures and Priorities*. The 659-page volume costs £10 and is available from the office of the Association of Commonwealth Universities, 36 Gordon Square, London, England WC1H OPF.

The Twelfth Quinquennial Congress was attended by "444 delegates and observers nominated by 186 member-universities together with 123 representatives of other organisations and specially invited guests".

The Congress had five topics for Group Discussions. These were:

Topic 1: The World Food Problem and the Universities
Topic 2: *Higher Education in* Countries with Federal Systems of Government
Topic 3: Reconciling Equality and Excellence
Topic 4: The Public View of the Universities
Topic 5: Universities and *Other Institution of Tertiary* Education

The report covers the discussions in the various Sub-topics and Topics for the Group Discussions and reports of Plenary Sessions. Besides, the Quinquennial Report of the ACU *Secretary-General* covering the period 1973 to 1978, "A Statistical Portrait of Canadian Higher Education" also appear in the appendix.

THESES OF THE MONTH

A list of Doctoral Theses Accepted by Indian Universities

PHYSICAL SCIENCES

Mathematics

1. Bansi Lal. Solutions of some two-dimensional boundary value problems by integral equation techniques. University of Delhi.

2. Mittal, Bhim Sen. Studies in scheduling and programming problems. University of Delhi.

3. Pramodini Devi. Flow analysis of non-Newtonian liquids. Utkal University.

4. Prasad, P. Krishna. Action of discontinuous groups on the upper half-plane. Sardar Patel University.

Statistics

1. Pal, Satyabrata. Some problems of factorial experiments. University of Calcutta.

Physics

1. Adhikari, Debabrata. Studies on some aspects of the hydrodynamics equations and the transport coefficients of gaseous plasmas. University of Calcutta.

2. Awasthi, R. K. Vibrational studies of solids. Kanpur University.

3. Bhanja, Sisir. Effects of a magnetic field on the heat conductivity of gases. University of Calcutta.

4. Deshmukh, Pranawachandra Chakradhar. Some considerations in atomic and solid state physics with special reference to X-ray spectra. Nagpur University.

5. Pal, Sankar Kumar. Studies on the application of fuzzy set theoretic approach in some problems of pattern recognition and man machine communication by voice. University of Calcutta.

6. Ray, Sudiptanarayan. Measurement of the differential incoherent scattering cross sections of gramma radiation at different energies. University of Calcutta.

7. Singhal, K. C. Evaluation and improvement of atomic absorption spectrophotometric technique, and its analytical application. Indian School of Mines, Dhanbad.

8. Vallamattom, Annie Joseph. Studies in molecular spectroscopy. University of Cochin.

Chemistry

1. Alok Kumar. Studies on synthetic drugs. Kanpur University.

2. Anand, Baldev Kumar. Studies in the kinetics of degradation of some antibiotics. Jiwaji University.

3. Balaram, Vysetti. Studies on the solvent extraction of molybdenum (VI) in the presence of some anions and neutral donors. Andhra University.

4. Basu, Swati. Non-ideality in vinyl polymerisation. University of Delhi.

5. Bhardwaj, Somdev. Cation-exchange equilibrium studies of some lanthanides in aqueous and mixed solvents. Jiwaji University.

6. Bhattacharyya, Parthasarathi. Studies on vulcanization of natural rubber. University of Calcutta.

7. Chauhan, Suman. Kinetics and mechanism of reactions of some plasticizers: Hydrolysis of 2-butoxy ethyl orthophosphates. Jiwaji University.

8. Ghosh, Arundhati. Chemistry of plant products. University of Calcutta.

9. Gupta, Rama. Synthetic and electrometric studies on heterocyclic compounds. University of Roorkee.

10. Mehta, Yogesh Kumar. Chemistry of sesquiterpenoids. Punjab Agricultural University.

11. Mukhopadhyay, Kanchan Kumar. Synthetic studies in heterocyclic systems. University of Calcutta.

12. Nagar, Ashish. Synthetic and natural studies of some plant polyphenolics. University of Delhi.

13. Saha, Nareschandra. Studies on some aspects of the radiolysis of iminodiacetic acid and its metal complexes in aqueous solutions. University of Calcutta.

14. Shah, Kashmira Kumudchandra. Synthetic studies in oxygen containing heterocycles (1-H-2-benzopyran-1-ones) Sardar Patel University.

15. Shyal, R. K. Mechanism of the effect of substituents and configurtican on the oxidation of organic compounds. Kanpur University.

16. Siddiqui, Amina. Polarography of some potential drugs and biological stains. University of Delhi.

17. Singh, Ashok Kumar. Studies on some metal complexes of sulphur and nitrogen containing ligands. University of Roorkee.

18. Subrahmanyam, Kuchibhotla. Chemical examination of the wood extractives of some medicinal plants and piper aurantiacum wall. Andhra University.

19. Suryaprakasa Raju, Gadiraju. Some studies on dicarboxylato complexes and analytical chemistry of thallium. Andhra University.

20. Thakur, Gulab Singh Jagannath Singh. Studies on the complexes of some less common elements. Nagpur University.

21. Tripathi, V. K. Additions to acetylenic ketones. Kanpur University.

22. Vajpai, A. C. Studies on iron doping in some metal oxide systems. University of Roorkee.

23. Vijaya Lakshmi. Kinetics of oxidation of organic compounds by acid bromate. Kakatiya University.

24. Vyas, Pramod Kumar. Chemical investigation of some Indian medicinal plants. University of Indore.

Earth Sciences

1. Rammohan, Hebbar Subbaramaiah. A study on the water balance and drought, climatology of Tamil Nadu. Andhra University.

2. Sarma, Kali Prasad. Petrological and structural study of the pre-cambrigan rocks of botlaguduru Area, Kanigiri Taluk, Prakasam District, Andhra Pradesh. Gauhati University.

3. Subrahmanya Sastri Sita Rama Anjaneya. Studies on some agroclimatic aspects of Andhra Pradesh. Andhra University.

Engineering & Technology

1. Agarwal, R. D. Study in production of alloy powders by cementation. University of Roorkee.

2. Awadhanlu, T. V. Evaluation and optimization of steady state performance of an inverter fed induction motor drive system. University of Roorkee.

3. Gulam Murtaza. Time dependent behaviour of single piles under lateral loads in cohesive soil. University of Roorkee.

4. Gupta, M. K. Liquefaction of sand during earthquakes. University of Roorkee.

5. Kohli, N. P. Optimal power systems operation using *mathematical programming: University of Roorkee.*

6. Puri, Narendra. Probabilistic study of time dependent properties of plain and fly ash concrete. University of Roorkee.

7. Qamaruddin, M. Development of brick building systems for improved earthquake performance. University of Roorkee.

8. Shiva Ram, B. A study of compaction and engineering behaviour of soil due to foam propellant. University of Roorkee.

BIOLOGICAL SCIENCES

Anthropology

1. Raychauduri, Samirkumar. Physical anthropology of the males of Nadia District. University of Calcutta.

Marine Biology

1. Kuttyamma, V. J. Studies on the common penacid prawns of the Kerala Coast. University of Cochin.

Botany

1. Baruah, Kushal Kumar. Studies on the physiology of chlorosis in paddy, oryza sativa L. Punjab Agricultural University.

2. Kothekar, Vijay Shridhar. Motational studies in solanum nirgum L. Nagpur University.

3. Lal, Shridhar. Studies on genetic variability, heterosis and combining ability in strawberry, Faragaria ananassa Duch. Kanpur University.

4. *Malhotra, Kusum. Transgenesis in higher plant cells :* A reappraisal. University of Delhi.

5. Mehta, Moti Keki. Investigation of certain metabolic products of some common green algae. Nagpur University.

6. Mishra, Jayandra Kumar. Biochemical studies on some botryodip lodia rots with special reference to cell wall degrading enzymes. University of Saugar.

7. Rao, G.S.C. Studies of manganese nutrition of sugarcane plant. Kanpur University.

8. Srivastava, V.K. In vitro studies on the allelopathic effects in the dynamics of establishment of natural plant communities of Rajkot. Saurashtra University.

9. *Sur, Banani. Keratiouophilic fungi of Orissa. Utkal* University.

10. Varko, Mary. Experimental studies on effects of plant growth regulators on vegetative morphology and floral *morphogeneis in Ricinus communis-Linn. Kanpur University.*

Zoology

1. Goswami, Umesh Chandra. Vitamin A in fresh water fish. *Gauhati University.*

2. Hanumanthaiya, V. Survey of free-living amoebae of soil fresh water, sewage sludge and other substrates and their pathogenecity to laboratory animals. Kanpur University.

3. Madhusudhan Rao, G. Metabolic studies on functionally different muscles of a fresh water field crab, papatelphusa hydrodromus (Herbst) and a fresh water mussel, lamelidins corrianus (Lea). Kakatiya University.

4. Ramulu; G, Raghu. Studies on the nervous system of some platyhelminthes. Kakatiya University.

5. *Saratchandrd, Beera.* Studies on *protozoan parasites* of reptiles of Andhra Pradesh. Andhra University.

6. *Srinivasa Rao, Duggaraju.* Systematics and ecology of intertidal annellidan polychaetes in vasish-to-Godavari Estuary. Andhra University.

7. Thakre, Vasant Yadavrao. Study on the biology of rasbora daniconius (Hamilton—Buchanan). Marathwada University.

Medical Sciences

1. *Bandyopadhyay, Arati. Dermatoglyphics in relation* to epilepsy. University of Calcutta.

2. Gangopadhyay, Chameli. Mucopolysaccharides, water and electrolytes of human fetal organs. University of Calcatta.

Agriculture

1. *Anand Mohan. Biometeorological and biochemical* studies in peppermint plant, Mentha piperita L. Kanpur *University.*

2. Ayodhya Prasad. Impact of modern technology on production pattern and resource use productivity of small farms in Chaka Block of Allahabad District. Kanpur University.

3. Bagga, Rajendra Kumar. Studies on the effect of dates of nursery seeding, age of seedlings and nitrogen levels on hybrid bajra under late sown conditions. Haryana Agricultural University.

4. Chaturvedi, O.P. Studies on nutritional requirement of gladiolus. Kanpur University.

5. Daljit Kaur. Content analysis and listerners' reactions towards womens' programme broadcast from All India Radio, Jullundur. *Punjab Agricultural University.*

6. Jiwan Lal. Comparative studies on the bioefficacy of ULV sprays for the control of jassids on cotton. Punjab Agricultural University.

7. Nathu Singh. Study of rationality of credit patterns and adoption of new cropping pattern in small farmers Development Agency, District Fatehpur of U.P. Kanpur University.

8. Ray, Sajal Sankar. Studies on chemical control of *growth and flowering of mango, Mangifera Indica L. Uni*versity of Calcutta.

9. Trivedi, Raj Kumar. Studies on the genetic parameters of yield and its components in jack fruit. Articarpus heterophyllus Lam. Kanpur University.

10. Vajpayi, Arvind Kumar. Studies on the inheritance of genetic variability, heterosis and combining ability in sunflower, Helianthus annuss. Kanpur University.

11. *Verma, Ram Babu. Studies on salt tolerance in* mango Mangifera indical. Kanpur University.

Veterinary Science

1. Joshi, Vasant *Gopal. Studies of thyroid function in* different strains of fowl in relation to growth rate and laying performance. Konkan Krishi Vidyapeeth.

2. Radadia, Nagji *Shamjibhai. Effect of differential body* cooling during summer on milk production and some physiological aspects of *female Murrah buffaloes. Haryana* Agricultural University.

3. Singh, Chanderodya. Manufacturing methods and storage properties of ghee. Kanpur University.

4. Uppal, Raj Paul. Neurologic effects of insecticides and their interaction with drugs. Haryana Agricultural University.

Additions to AIU Library

Asian Programme of Educational Innovation for Development, Bangkok. *Co-operation in curriculum explorations : Report of a High-level Personnel Exchange Workshop, Islamabad and Karachi, 1975.* Bangkok, Unesco Regional Office for Education in Asia (c 1976) 56 p.

———— *Documentation and information support for educational innovation : Report of a Regional Seminar, Bangkok, 1977.* Bangkok, Unesco Regional Office for Education in Asia, 1977, 43p.

———— *Inter-country co-operation in Educational Technology in Asia : Report.* Bangkok, Unesco Regional Office for Education in Asia, 1977. 58 p.

———— *National work plans of educational innovation in member states 1978-82.* 3 Pts. Bangkok, Unesco Regional Office for Education in Asia, 1977. Disconted.
Pt. 1. India, Nepal, Sri Lanka.
Pt. 2. Indonesia, Korea, Malaysia, Philippines.
Pt. 3. Thailand.

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Australian Vice-Chancellors' Committee, Canberra. *Publishing assistance.* Canberra, Author, 1969. 3p.

Bassett, G.W. and others. *Individual differences ; Guidelines for educational practice.* Sydney, Allen and Unwin (c 1978) xi, 284.

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CLASSIFIED ADVERTISEMENT

THE UNIVERSITY OF BURDWAN
RAJBATI : BURDWAN
WEST BENGAL

Advertisement No. 1/79-80
Dated, 4th June, 1979

Applications in the prescribed form are invited for the following posts in the approved scales of pay (viz. Reader Rs. 1200-50-1300-60-1900/- and Lecturer-Rs. 700-40-1100-50-1600/-) with allowances and other benefits according to University Rules.

A. Reader in Instrument Science (Electronics)...One post
B. Lecturer in Instrument Science... One post.

Minimum qualifications

For A : At least Second Class Post-Graduate Degree in Engineering or Science with 5 years' experience in R & D of instruments or in operation, repair and maintenance of modern instruments.

For B : At least Second Class B.E./B. Tech./M.Sc. with 2 years' experience in operation of sophisticated instruments/repair and maintenance of modern instruments.

Desirable : A flair for R & D activity in instruments.

The University Council may on the recommendations of the appropriate Selection Committee, waive any of the requiremsnts in view of the candidate's specialised knowledge in the subject. The choice of the Committee may not necessarily be confined to those who apply formally.

For application form and other information apply to the Registrar with a self-addressed stamped (0' 40 p.) envelope (9"X4").

Last date for submission of applications with requisite fee of Rs. 5/- is **June 28, 1979.**

A. K. Chaudhuri
REGISTRAR

CLASSIFIED ADVERTISEMENTS

HARYANA AGRICULTURAL UNIVERSITY
HISSAR

Advertisement No 4/79

Applications invited for following posts. Higher start outstanding qualifications, experience and achievements. Benefits of Contributory Provident Fund and leave etc. according to University Rules. Applications of the candidates already in service must reach through proper channel upto the fixed date. Applications on prescribed form (obtainable free by sending self-addressed unstamped envelope size 23x10 cms. to Assistant Registrar (R), HAU, Hissar) accompanied by prescribed fee of Rs. 10/-, in the form of Crossed Postal Order in the name of Assistant Registrar (R), HAU, Hissar payable at Hissar Post Office should reach Registrar by **2nd July, 1979**. The envelope containing application must be superscribed as "APPLICATION FORM FOR THE POST OF———".

1. **Director of Research:** (One): Basic:

(i) Second class B.Sc. (Agr.), B.Sc. (Animal Science), B.V.Sc. and A.H. or B.Sc (ii) Second class M.Sc. in any science related to Agriculture, Veterinary Medicine or Animal Science. (iii) Ph.D. in any science related to Agriculture, Veterinary Medicine or Animal Science. Experience: i) Should be an outstanding Scientist of national and international standing, with a distinguished record of research. (ii) Should possess ability to organize, supervise and co-ordinate scientific research, leadership, initiative and ability.

2. **Associate Dean, College of Agriculture**: (One)

(i) Second class B.Sc. Agri. followed by second class M.Sc. in any field of Agriculture. ii) Ph.D. in any field of Agriculture. iii) Ten years experience in teaching/research/extension of which atleast five years should be in Class I. iv) Leadership qualities and administrative experience and capacity for organisation in a postgraduate teaching or research dept./institution.

3. **Biochemist (Mycotoxins):** (One)

Essential: (i) Second class B.V.Sc. & A.H./B.Sc. (Ani. Sc.) / B.Sc. (Agri.)/ B.Sc. ii) Second class Master's degree in Biochemistry / Organic Chemistry / Physiological Chemistry. iii) Ph.D. in Biochemistry / Organic Chemistry / Physiological Chemistry. iv) Five years experience of research/teaching in the above fields. v) Experience in isolation and identification/characterization of mycotoxins. Desirable: Training / Experience in modern analytical techniques.

4. **Associate Professor of Rural Sociology**: (One)

Essential: i) Second class B.Sc.(Agr.)/ B.V.Sc. or B.A. ii) Second class M.A. in Sociology or M.Sc. in Rural Sociology. iii) Ph.D. in Sociology or Rural Sociology. iv) Five years' experience of teaching/research/extension. Desirable: i) Knowledge of basic statistical methods. ii) Experience should be preferably in rural sociology.

5. **Soil Scientist:** (One)

i) Second class B.Sc. (Ag.) ii) Second class M.Sc. (Ag.) in Soil Science. iii) Ph.D. in Soil Science. iv) Five years' experience of teaching/ research/extension.

6. **Entomologist** : (One)

i) Second class B.Sc. (Ag.) ii) Second class M.Sc. (Ag.) in Entomology. iii) Ph.D. in Entomology. iv) Five years' experience of teaching/research/extension in Entomology/Economic Entomology.

7. **Research Officer (Plant Breeding):** (One)

i) Second class B.Sc./B.Sc. (Agr.). ii) Second class M.Sc./M.Sc. (Agr.) in Plant Breeding/Genetics. iii) Ph.D. in Plant Breeding/Genetics. iv) Five years' experience of research/teaching in Plant Breeding/Genetics with special reference to brassica.

8. **Research Officer (Biochemistry):** (One)

i) Second Class B.Sc./B.Sc. (Agr.). ii) Second class M.Sc./M.Sc. (Agr.) in Biochemistry / Agril. Chemistry. iii) Ph.D. in Biochemistry/Agril. Chemistry. iv) Five years' experience in the quality analysis work on field crops. Desirable: Research experience in the quality aspects on rapeseed and mustard.

9. **Research Officer (Plant Protection):** (One)

Essential: i) Second class B.Sc./B.Sc. (Agr.). ii) Second class M.Sc./M.Sc. (Agr.) in Plant Pathology/Entomology. iii) Ph.D. in Plant Pathology/Entomology. iv) Five years' experience of research/teaching preferably on Plant Protection of Oilseed Crops. Desirable: Research experience of Plant Pathological/Entomological work on repaseed and mustard.

10. **Pedologist:** (One)

Essential: i) Second class B.Sc. (Agr.)/B.Sc. followed by second class M.Sc. in Soil Sciences/Agricultural Chemistry. ii) Ph.D. in Soil Sciences/ Agril. Chemistry with specialization in Pedology. iii) Five years teaching/ research/extension experience in Soil Survey and Classification work. Desirable: Training in Aerial Photo Interpretation / Geomorphology/Hydrology/ Clay Minerology.

11. **Associate Professor Animal Production Physiology**: (Two)

Essential: i) Second class B.V.Sc./ B.Sc. (Animal Sciences)/B.Sc. (Dairying)/B.Sc. (Agr.). ii) Second class M.Sc. in Animal Production Physiology / Animal Physiology / Physiology. iii) Ph.D. in any branch of Animal Production Physiology/Physiology with specialization in A.P.P. iv) Five years' experience of teaching/research/extension in any branch of Animal Production Physiology.

12. **Associate Professor of Veterinary Public Health** (One)

Essential: i) Second class B.V.Sc. & A.H. ii) Second class M.V.Sc. in Vety. Microbiology with specialization in Public Health. iii) Ph.D. in Vety. Public Health/Vety Microbiology with specialization in Vety. Public Health. iv) Five years' experience in teaching/ Research/extension in Vety. Public Health. Desirable: Advanced training in Pathology Bacteriology/Parasitology/ Public Health.

13. **Agronomist (Pulses)**: (One)

Essential: i) Second class B.Sc. (Agri.). ii) Second class Master's degree in Agronomy. iii) Ph.D. in Agronomy. iv) Five years experience in teaching/research/extension, preferably on Pulses. Desirable: Knowledge of modern statistical methods in field experimentation.

14. **Associate Professor (Plant Physiology)**: (One)

i) Second class B.Sc./B.Sc. (Ag.). ii) Second class M.Sc./M.Sc. (Ag.). iii) Ph.D. with specialization in some aspect of environmental crop physiology. iv) Five years experience of teaching / research/extension education in the subject.

15. **Associate Professor (Plant Breeding)**: (One)

i) Second class B.Sc. (Agri.)/B.Sc. ii) Second class M.Sc. in Plant Breeding/Genetics. iii) Ph.D. in Plant Breeding/Genetics. iv) Five years experience of research/teaching/extension in the discipline of Plant Breeding/ Genetics.

16. **Assistant Professor of Vegetable Crops**: (One)

i) Second class B.Sc. (Agril.). ii) Second class M.Sc. (Agril.) in Vegetable Crops/Horticulture with specialization in Vegetable Crops. iii) Ph.D. in Vegetable Crops/Horticulture with specialization in Vegetable Crops OR three years experience of teaching/ research/extension in Vegetable Crops.

17. **Assistant Residue Chemist:** (One)

i) Second class B.Sc./B.Sc. (Agri.) ii) Second class M.Sc. in Chemistry Biochemistry. iii) Ph.D. in Chemistry-Biochemistry OR 3 years experience in residue analysis after Master's degree.

18. **Assistant Scientist (Soil Science):** (One)

i) Second class B.Sc. (Ag.). ii) Second class M.Sc. (Ag.) in Soil Science. iii) Ph.D. in Soil Science OR 3 years' experience in Research/Teaching/Extension in the field of Soil Science.

19. **District Extension Specialist (Agril. Engineering)**: (Three)

i) Second class Bachelor's degree in Agri.Engg. with three years experience in Soil & Water Engineering or Farm Machinery and Power or Process Engineering OR Second class Master's degree in Agri. Engg. with specialization in Soil & Water Engineering or Farm Machinery and Power or Process Engineering.

20. **Assistant Professor (Economics):** (One)

Essential: i) Second class B.A./

B.Sc. (Ag.)/B.Sc. with Economics and Mathematics. ii) Second class M.A./ M.Sc./M.Sc. (Ag.) with Econometrics or mathematical Economics and three years experience in Economics with a paper on econometrics / mathematical economics OR Ph.D. in Economics with specialisation in econometrics or mathematical Economics. Desirable: Teaching / research experience in econometrics/mathematical economics.

21. Assistant Plant Physiologist: (One)

Second class B.Sc. (Agri.)/B.Sc. ii) Second class M.Sc. Botany/M.Sc. (Ag.) with specialization in Plant Physiology/M.Sc. in Plant Physiology or equivalent qualifications with three years experience of teaching/research in Plant Physiology preferably on nutrient requirements of field and fruit crops OR Ph.D. in Plant Physiology with specialisation in Plant Nutrition.

22. Assistant Research Officers (Plant Breeding): (Two)

i) Second class B.Sc. (Ag.) B.Sc. ii) Second class M.Sc. M.Sc. (Ag.) in Plant Breeding/Genetics with three years' experience of research teaching/ extension in Plant Breeding OR Ph.D. in Plant Breeding Genetics.

23. Assistant Research Officer (Plant Physiology): (One)

i) Second class B.Sc./B.Sc. (Agr.), ii) Second class M.Sc. in Plant Physiology with three years' experience in Plant Physiological work preferably on Oilseeds OR Ph.D. in Plant Physiology.

24. Assistant Professor of Extension Education: (One)

Essential: i) Second class B.Sc. (Ag.) or B.V.Sc. followed by second class Master's degree in Agril.Extension. ii) Three years experience of Extension Education or research/teaching in the subject of Extension or Ph.D. in Agril. Extension. Desirable: Ph.D. in Agril.Extension.

25. Assistant Professor of Pharmacology: (One)

i) Second class B.V.Sc. & A.H. or equivalent. ii) Second class Master's degree in Pharmacology iii) Ph.D. in Pharmocology or three years experience in Pharmacology.

26. Assistant Research Officer (Vety. Physiology): (One)

Essential: i) Second class B.V.Sc./ B.Sc. (Agr.)/B.Sc. Animal Science/ B.Sc. ii) Second class M.Sc./M.V.Sc. in Physiology/Animal Biochemistry. iii) Ph.D. in Physiology/Animal Biochemistry OR Second class M.Sc./ M.V.Sc. in Physiology/Animal Biochemistry with three years' experience in teaching/research/extension in Physiology preferably on the feed intake in animals. Desirable: Acquaintance with the techniques assey of metabolites, VFA and steroids.

27. Assistant Professor Clinic for Interns: (One)

i) Second class B.V.Sc. & A.H. ii) Second class M.V.Sc. in Surgery/ Medicine/Gynaecology. iii) Ph.D. in Surgery / Medicine / Gynaecology OR three years' experience in Surgery/ Medicine/Gynaecology.

28. Assistant Professor (Meat Technology): (One)

i) Second class B.V.Sc. & A.H./ B.V.A.Sc./B.Sc. (Agri.)/B.Sc. (Animal Science). ii) Second class M.V.Sc./ M.Sc. (Food Tech.)/M.Sc. (Animal Science)/M.V.P.H. with three years experience as teaching/research/extension associate or lecturer or equivalent in the area of Meat technology OR Ph.D. in any branch of Animal Products Technology.

29. Farm Manager: (One)

i) Second class B.Sc./B.Sc. (Agri). ii) Second class M.Sc. (Ag.) with 3 years experience of independent management of a large Agril. farm. OR Second class B.Sc. (Ag.) with 5 years experience of independent management of a large Agril.Farm.

Note

1. For posts at Sr. Nos. 1 to 11, 13 to 18, 20 to 24 & 28, One or more of the Essential Qualifications relaxable for candidates with outstanding attainments/experience,
2. For posts at Sr. Nos. 12, 25, 26 & 27, qualifications are relaxable if persons with requisite experience/qualifications are not available.
3. Special weightage will be given to extension experience possessed by the candidates for posts in disciplines amenable to extension.
4. For posts at Sr. Nos. 16, 17, 18 and 20 to 28, the persons who do not possess Ph.D. at the time of their selection, if selected, will have to obtain Ph.D. degree within *a period of five years failing which* their future increments may be stopped.
5. No. of posts mentioned against each post is likely to vary.
6. 20% and 5% vacancies of Assistant Professors and equivalent are reserved for Scheduled Castes and Backward Classes candidates respectively, if suitable candidates from these categories are available.

PAY SCALES

Sr. No. of post	Pay Scale	Total emoluments at the initial of the pay scale (exclusive of house rent).
1.	i) 1500-60-1800-100-2000-125/2-2500 (with unfurnished rent-free residence).	i) Rs. 1863/-
	ii) Candidates with outstanding record of research administration/research achievements can be considered for higher start in the above scale or even higher scale of Rs. 2500-125-3000.	ii) Rs. 2500/-
2.	Rs. 1500-60-1800-100-2000-125/2-2500	Rs. 1863/-
3 to 15	Rs. 1200-50-1300-60-1900	Rs. 1518/-
16 to 28	Rs. 700-40-1100-50-1600	Rs. 973/-
29.	Rs. 700-40-1100-50-1300	Rs. 973/-

REGISTRAR

INDIRA KALA SANGEET UNIVERSITY

KHAIRAGARH (MP)
Pin: 491 881

Applications are invited for the following posts in the University Teaching Departments, viz: One Professor of Music (Vocal or Instrumental), Three Readers **one each** in Painting, Kathak Dance and Folk Music or Folk Art, One Research Assistant for Folk Music/ Art Department and One Technician for Tapes & Tape Recorders. **Scale of Pay (likely to be revised)** Professor: Rs. 1000-50-1500, Reader: 700-40-1100, Research Assistant: Rs. 350-12½-400-20-500-EB-25-600, Technician: Rs. 246-6-270-10-350-12½-400-20-460. Total monthly emoluments including D.A. and A.D.A. at the minimum for professorship—Rs. 1543/-, for Readership—Rs. 1217/-, for Research Assistantship—Rs. 592/- and for the post of Technician—Rs. 470/- respectively.

Posts are permanent and carry C.P.F. benefits. Appointments will be on probation according to University rules.

Application Forms and details of qualifications etc. obtainable from the Registrar by sending self addressed Re. 1/- stamped envelope of 23x10 cms.

Those who have applied for any of the above posts (excepting Painting & Kathak Dance) in response to the last advertisement need not apply again. Scheduled Castes and Scheduled Tribes Candidates will be given preference according to rules.

Last date for receipt of duly completed applications is **15th July, 1979.**

D. K. Ghosh
REGISTRAR

UNIVERSITY OF POONA
PUNE-7

Applications are invited for the undermentioned posts in (A) the University Departments and at (B) Abasaheb Garware College of Arts and Science, Pune-4.

(A) UNIVERSITY DEPARTMENTS

(1) Professors

- (1) English (Language, Stylistics and Language Teaching) (One)
- (2) Geography (One)
- (3) Statistics (One)
- (4) Linguistics (One)

(2) Readers

- (5) Archaeology (One)
- (6) Philosophy (One)
- (7) Law (One)
- (8) Linguistics (Three)
- (9) Anthropology (Physical) (One)
- (10) Mathematics (One)

(3) Lecturers

- (11) Linguistics (Three)
- (12) History (One)
- (13) Library Science (One)
- (14) Law (One)
- (15) Russian (One)
- (16) Statistics (Four)
- (17) Chemistry-Physical (One). (Tem. post) Bio (One) (Tem. post).

(B) ABASAHEB GARWARE COLLEGE OF ARTS AND SCIENCE, PUNE-4

Reader

- (1) English (One)

GENERAL QUALIFICATIONS

(1) Professor

Must be scholar of eminence, must have to his credit research work of independent merit, must possess fairly long experience of teaching of Post-graduate classes and guiding advance research in the respective subjects.

(2) Reader

Must possess fairly long experience of teaching of Post-Graduate classes and guiding research in the respective subjects.

(3) Lecturer

Must have a Doctor's Degree or published work of an equally high standard and consistently good academic record with First or High Second Class (B in seven point scale) Master's Degree in a relevant subject or an equivalent Degree of a Foreign University.

MINIMUM QUALIFICATIONS

(1 & 2) Professor & Reader

As prescribed by the University for recognition as 'Post-Graduate Teacher (By Research)

(3) Lecturer

As prescribed by the University for recognition as Post-Graduate Teacher (By Papers)

SCALES OF PAY

1. **Professor:** Rs. 1500-60-1800-100-2000-125/2-2500
2. **Reader:** Rs. 1200-50-1300-60-1900.
3. **Lecturer:** Rs. 700-40-1100-50-1600.

All posts carry usual allowances admissible under University rules in force from time to time.

AGE LIMIT

Candidates applying for the posts of Professors should ordinarily be below the age of 50 years, those applying for the posts of Readers should ordinarily be below the age of 45 years, and those applying for the posts of Lecturers should ordinarily be below the age 35 years. However, this age limit may be relaxed in the cases of deserving candidates.

Eight copies of applications together with the eight copies of testimonials, if any, separately for each post giving particulars in the prescribed form should be sent to the Registrar so as to reach him not later than **Tuesday, the 31st July, 1979.**

The prescribed set of application forms, together with requisite detailed information, will be supplied to the candidates, on request accompanied by (1) a self addressed envelope (23 cm. x 10 cm.) bearing postal stamps worth Re. 1/- *for the postage, and (2) a postal* order of Rs. TEN drawn in the name of the Registrar, separately, for each post. This amount will also be accepted in cash in the University Office.

(Contd. on next page)

Indian school of Mines

DHANBAD-826004

No. Adt 420003/79 **Dated May 22, 1979**

Indian School of Mines, which is deemed to be a University under the U.G.C. Act, wishes to recruit a Deputy Registrar (Accounts) and a Development Officer as below :

Pay Scale : Rs. 1100-1600 plus allowances as admissible to Government of India employees. Total emoluments payable at the minimum of the scale work out currently to Rs. 1,410 only.

DEPUTY REGISTRAR (ACCOUNTS)

Job Description : Responsibility for (i) internal audit of all receipts and payments (ii) ensuring proper maintenance of accounts and records, and (iii) assisting Director/Registrar in managing the *financial affairs of the School, including preparation of budget* estimates and preparation of statement of Accounts etc.

Qualifications

1. Pass in Final Examination of Institute of Chartered Accountants or of the Institute of Cost and Works Accountants (Essential but relaxable in case of candidates otherwise considered specially suitable and proficient in **double entry system of accounts**, to (a) a good Master's degree in Commerce, or (b) a good degree with pass in Subordinate Accounts Service Examination of the Government).
2. Experience for about ten years (relaxable to six years in the case of a Chartered or Costs and Works Accountant) in the maintenance and control of accounts in a large educational/research institution (or industrial undertaking or Govt. or Semi-Govt. Organisation) of which three years should have been in a position of responsibility. (Essential)
3. Experience in handling agenda, minutes and procedure of meetings. *(Desirable).*
4. Experience of administration in a residential institute. (Desirable)

In case no candidate is considered fit for the post of Deputy Registrar, the selection may be made at the level of Asstt. Registrar (in the pay scale of Rs. 700-1300/-). Persons with lesser experience (of not less than five years including two years in a supervisory capacity) may, therefore, also apply.

DEVELOPMENT OFFICER

Job Description : Mainly to assist the administration in (i) introducing examination reforms and semester system ; and (ii) introducing of new academic programmes.

He will also be required to assist in the preparation of material for annual reports and other School publications, and in organising and providing secretarial back-up for meetings of Academic Council, Board of Research Studies, Examination Board etc.

Qualifications

1. Master's Degree in Education/Science/Arts/Commerce/Administration or a Degree in Engineering/Technology, with not less than 60% marks. (Essential) but relaxable in case of candidate otherwise considered specially suitable.
2. About six years administrative experience in an Academic institution, etc., including about three years as Assistant Registrar (or equivalent position) dealing with management of academic and examination matters. (Essential)
3. Familiarity with the implementation of Semester System and Examination Reforms, and competency to draw up relevant rules, etc. (Essential).
4. Good drafting ability.
5. Experience of organising meetings and handling agenda papers and minutes. (Desirable)
6. Capacity to develop corporate life within an educational institution.

In case no candidate is considered fit for the post of Development Officer, the selection may be made at the level of Asstt Registrar (in the payscale of Rs. 700-1300/-). Persons with lesser experience (of not less than three years including two years in a supervisory capacity) may therefore also apply.

GENERAL

1. Age—normally not more than 40 years. relaxable in case of persons otherwise considered specially suitable. Upper age limit also relaxable by five years in respect of (i) candidates belonging to Scheduled Castes/Tribes, (ii) displaced goldsmiths. and (iii) displaced persons from Bangladesh (the erstwhile East Pakistan) who had migrated on or before 1.1.1964.

2. Application in the prescribed form (obtainable from the Registrar, Indian School of Mines, Dhanbad-826004 on receipt of a self addressed envelope of the size 30 cm. × 12 cm affixed with postage stamps of the value of Rs. 3.45) should reach the Registrar on or before **30th June 1979**.

3. Applications should be accompanied by a Money Order receipt for a sum of Rs. 8/- (Rs. 2/- for Scheduled Caste/Tribes candidates) in token of remittance of Application Fee to the Registrar, Indian School of Mines, Dhanbad-826004.

4. Those in SERVICE should apply through their employer. If the application through proper channel likely to be delayed, an advance copy may be submitted but in such a case the original application must also reach the Registrar within 10 days of the aforesaid date.

5. The School reserves the right to consider cases of CONTACT CANDIDATES whose names have been suggested by Universities or other authorities, etc., even though they may not have formally applied for the post.

6. Candidates called for interview will be paid 1st Class railway fare for to and fro journey by the shortest route, or the actual expenses incurred, whichever is less.

Canvassing in any form will be considered as disqualification.

S. P. VARMA
REGISTRAR

(Contd. from previous page)

The applicants, in their letters, asking for set of application, must specify (i) the name, and (ii) the serial number of the post, for which they want to apply.

The selected candidates will be on probation for a period of two years and will be required, to contribute to the University Provident Fund and to enter into an agreement of service with the University. They will also have to pass a test in elementary Marathi, at the time of confirmation, if Marathi is not their mother tongue.

Notes

(1) Those who are employed must submit their applications through the proper channel.

(2) Some of conditions may be relaxed in the case of exceptionally capable candidates.

(3) Candidates called for interview will have to present themselves for an interview at their own expense.

(4) Canvassing, direcet or indirect, will be a disqualification.

(5) In the case of lecturers other things being equal, preference will be given to candidates belonging to Scheduled Castes (including Scheduled Castes converted to Buddhism) and Scheduled Tribes.

(6) Higher starting salary may be given to deserving candidates.

G. J. Abhyankar
REGISTRAR

UNIVERSITY OF DELHI

DELHI-110007

Advt. No. Estab. IV/59/79
Dated June 7, 1979

Applications on the prescribed forms are invited for the following posts:

Department and Designation

Modern Indian Languages—One Reader in Gujarati

Hindi—One Reader, Specialization: Drama & Stage Craft

Linguistics—Two Readers

Botany—One Reader
One S.T.A. (Technician)

Faculty of Science—One Reader in History of Science and Scientific Methods

Central Office—Two Deputy Registrars (One temporary but likely to continue, another for Vice-Chancellor's Office).

W.U.S. Health Centre—Three Medical Officers, Two Pharmacists*. (One each reserved for S/C & S/T.), Two Attendants (temporary but likely to continue) (One post is reserved for S/T.)

Central Science Facility—One Electronic Engineer.

***Note**

General candidates would also be eligible to apply. The general candidates would, however, be considered only if no suitable Scheduled Caste/Scheduled Tribes candidates are available for appointment to the vacancy reserved for them.

The scale of pay of the posts are:

Reader : Rs. 1200-50-1300-60-1900.
Electronic Engineer: Rs. 1500-60-1800-100-2000
Deputy Registrar: Rs. 1100-50-1600.
Medical Officer : Rs. 700-40-900-EB-40-1100-50-1300 plus non-practising allowance (as admissible under the University rules).
Senior Technical Assistant (Technician) : Rs. 550-25-750-EB-30-900.
Pharmacist : Rs. 330-10-380-EB-12-500-EB-15-560.
Attendant : Rs. 210-4-250-EB-5-270.

All posts carry D.A., C.C.A. and H.R.A. as admissible under the rules in force in the University from time to time.

ESSENTIAL QUALIFICATIONS FOR

Readership

Good academic record with first or high second class Master's Degree in the subject concerned with a Doctor's Degree or equivalent published work.

Independent published work (in addition to the published work mentioned above) with atleast 5 year's teaching experience in Honours/Post-graduate classes essential.

Electronic Engineer (Central Science Facility)

Second class Post-graduate degree in Engineering or Science with at least 10 years' experience with proven ability in maintenance and repairs of Electronic/Electrical/Scientific equipment.

Note

Post-graduate degree in Engineering or Science means degree such as M.E., M.Tech. in Engineering in any branch, M.Sc. degree in case of Science in any of the subjects such as Physics, Chemistry etc.

Proven ability in designing and building major instruments. Capacity to lead and direct R & I activity instrumentation. Working knowledge with modern analytical instruments.

Deputy Registrar

A Second Class Master's degree and experience of educational administration at the executive level for atleast 8 years.

Medical Officer

M.B.,B.S. degree from a recognised University. Minimum 3 years' experience after passing M.B.,B.S. required. Candidates with Post-graduate qualifications or hospital experience will be preferred.

Senior Technical Assistant *(Technician)*

M.Sc. Physics with Electronics as a special paper or Bachelor's degree in Electronics or Diploma in Electronics with 5 years experience of handling of Electronics Laboratory Equipment.

Pharmacist

Matric or equivalent. Must have passed the (Pharmacists) (Compounder Courses from a recognised institution and must be a registered Pharmacist).

Two years' experience in the profession is desirable.

Attendant

Matriculation.

SPECIAL/DESIRABLE QUALIFICATIONS FOR

Readership in Gujarati (MIL)

Sound knowledge of Comparative Literature.

Readership in Linguistics

Theoretical Linguistics with one of the following additional specialisations: (a) Socio-linguistics (b) Generative Semantics (c) Computational Linguistics & Experimental Design.

Deputy Registrar

Experience of University administration and familiarity with the working of University bodies and institutions including admissions, College administration, accounts rules relating to fixation of pay and Inspection of Colleges.

The prescribed application form can be had from the Information Office of the University either personally or by sending a self addressed envelope (size 5" x 11") with postage stamps worth Rs. 2.35.

The candidates will have to produce the original documents relating to their age, qualifications, experience, etc. at the time of interview.

Applications (separate for each post) accompanied by attested copies of Degrees, other certificates, marksheets, published research articles, etc. should reach the undersigned not later than **29 June, 1979**.

Note

1. It will be open to the University *to consider the names of suitable candidates* for teaching posts who may not have applied. Relaxation of any of the *qualifications may be made in exceptional* cases, in respect of all teaching posts and for the posts of Deputy *Registrars on the recommendation of* the Selection Committee.
2. Canvassing in any form by or on *behalf of the candidates will disqualify*.
3. Candidates from outside Delhi, for teaching posts only called for interview *will be paid to and fro single* second class rail fare.
4. Those who have applied in response to the earlier advertisement for the posts of Readers in Gujarati, Hindi, Linguistics, Botany, History of Science and Scientific Methods and the post of Deputy Registrar (temporary but likely to continue) need not apply again but in case they have any additional information to supply they may do so.
5. The University reserves the right not to fill up any of the vacancies advertised, if the circumstances so warrant.

R. V. Raman
REGISTRAR (OFFG.)

OSMANIA UNIVERSITY
HYDERABAD-500 007, (A.P.)

Addendum to the Advt. No. 7/79

The last date for receipt of application forms for the post of Lecturers in Business Management only has been extended *upto* **9th July '79**.

REGISTRAR

PANJAB UNIVERSITY
CHANDIGARH

Advertisement No. 9/79

Applications are invited for the following posts so as to reach the Registrar, Panjab University, Chandigarh, alongwith the postal order for Rs. 10/- by **9.7.1979**. Fourteen days extra time is permissible to the persons who have to submit their applications from abroad.

POSTS, SCALE OF PAY AND QUALIFICATIONS

1. **Professors** (Rs. 1500-60-1800-100-2000-125/2-2500)
Biochemistry-1, Botany-1 (Plant Physiology), Zoology-3 (Cytology & Cytogenetics-1, Parasitology-1), Department of Chemical Engineering & Technology-2.

QUALIFICATIONS

Essential

a) A first or high second class Master's degree *of an Indian University* or an equivalent qualifications of a foreign University in *the subject with bright academic* record;
b) Either a research degree of doctoral standard or published research work of high standard in journals of repute,
c) About 10 years experience of teaching post-graduate classes and/or research; and
d) Experience of guiding research at Doctoral level.

OR

An outstanding Scholar with established reputation who has made significant contribution *to knowledge in the* discipline concerned.

Department of Chemical Engineering & Technology

(Chemical Technology-1, Reaction Engineering & Process Dynamics-1)

QUALIFICATIONS

Essential

For Chemical Technology

First class Bachelor's degree in Chemical *Engineering followed by* Master's/Doctorate degree or a first class Master's degree in Chemical Technology / Technical *Chemistry /* Applied Chemistry followed by a doctorate with adequate knowledge of Chemical Processes *industries Design* and Operational details. A minimum of 7-10 years' distinguished experience *in teaching/research in an Engineering* institution or a University at undergraduate and postgraduate levels is *required*.

For Reaction Engineering & Process Dynamics

Essential

First class Bachelor's degree in Chemical Engineering followed by Master's/Doctorate degree with a minimum of 7-10 years distinguished experience in teaching/research in an Engineering institution or a University at undergraduate and postgraduate levels.

Desirable

For both the posts.

Professional/scientific work of outstanding merit.

2. **Readers-2** (Rs. 1200-50-1300-60-1900)

Department of Chemical Engineering & Technology

Chemical Engineering (Transfer Processes-1) Chemical Engineering (Process Engineering)-1

Out of these two posts one is temporary, but likely to be permanent.

Essential

First class Bachelor's degree in Chemical Engineering followed by Master's/Doctorate degree with minimum of 5 years experience in teaching/research in an Engineering institution or a University.

Desirable

Specialised knowledge in the field mentioned with outstanding teaching/research experience and Doctorate degree or published work of equal standard.

Readers (Rs. 1200-50-1300-60-1900)

Biophysics-1, Microbiology-2 (Immunology-1, *Microbiology-1, temporary* but likely to be permanent), Chemistry-1 (Analytical Chemistry), Geology-1 (Himalayan Geology, temporary, bnt likely to be permanent). Pharmaceutical Sciences-1 (Pharmaceutics, temporary, but likely to be permanent).

QUALIFICATIONS

Essential

a) A first or high second class Master's degree of an Indian University or an equivalent qualifications of a foreign University in the relevant subject with bright academic record.

b) Either a research degree of doctoral standard or published research work of high standard in the subject concerned in journals of repute.

c) About five years experience of teaching post-graduate classes and/or research; and

d) Competence to guide research.

Evidence of being engaged in making innovation in teaching methods and production of standard teaching material, will be an additional qualifications.

Essential/Desirable

For the post of Reader in Microbiology (Immunology)

M.Sc. in Microbiology / M.V.Sc., M.B,B.S., Ph.D. in Immunology Chemistry or Immunolgy.

M.D. in Immuno - Pathology, Research and Teaching experience in the subject of Immunology, Immunochemistry and Immunopathology.

For the post of Reader in Microbiology

M.Sc./M.V.Sc. / M.B.B.S / M.D. in Microbiology. Experience in area of Molecular genetics or Fermentation technology.

Desirable

For the post of Reader in Biophysics.

Specialisation in Neuro-physiology/Electron Microscropy/Molecular Biology/Cell Biology/Radiation Biophysics.

3. **Lecturers-4** (Rs. 700-40-1100-50-1600)

Department of Chemical Engineering & Technology

(Permanent-1, Temporary-3, but likely to be made permanent)

QUALIFICATIONS

Essential

First class Bachelor's degree in Chemical Engineering followed by a Master's degree.

Desirable

i) Two years' industrial / research / teaching experience in an Engineering institution or a University.

ii) Doctorate degree or published work of equal standard.

Lecturers (Rs. 700-40-1100-50-1600)

Anthropology-2 (Physical Anthropology-1, temporary, but likely to be permanent, Temporary-1), Biophysics-2 (Permanent-1, Temporary-1, but likely to be permanent), Biochemistry-1, temporary, but likely to be permanent, Microbiology-2, (Lecturer in Virology-1, Lecturer-cum-Curator-1), Chemistry-3 (Inorganic Chemistry) (Permanent-2, Temporary-1), Geology-4, temporary, but likely to be permanent, Pharmaceutical Sciences-2, temporary, but likely to be permanent (Pharmaceutical Chemistry-1, Pharmaceutics-1), Physics-4, temporary, but likey to be permanent), Nuclear Reaction (Experimental)-1, Particle Physics (Theortical)-1, Mass Spectro-metry or Geo-Chronology, Vacuum-ultraviolet Spectroscopy-1, Bubble Chamber Project-1.

QUALIFICATIONS

a) A Doctor's degree or research work of an equally high standard; and

b) Consistently good academic record with 1st or high second class i.e. 55% marks or more (B in the seven point scale). Master's degree in a relevant subject or an equivalent degree of a foreign University. Having regard to the need for developing inter-disciplinary programmes, a degree in)a) and (b) above may be in relevant subjects. The consistently good academic record at pre-Master's level would be interpreted as an average of 50% or above at the two examinations prior to Master's examination.

Provided that if the selection committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of a very high standard, it may relax any of the qualification prescribed in (b) above.

Provided further that if a candidate possessing a doctor's degree or equivalent research work is not available or is not considered suitable a person possessing a consistently good academic record (weightage being given to M.Phil or equivalent degree or research work of quality) may be appointed provided he has done research work for atleast two years or has practical experience in a research laboratory/organisation on the condition that he will have to obtain a doctor's degree or give evidence of research work of equivalent *high standard within five years of his* appointment failing which he will not be able to earn future increments until he fulfils these requirements.

Desirable

a) Lecturer in Virology (Department of Microbiology)

1 M.D./Ph.D. in Microbiology with specialisation in Virology.

2 At least 3 years experienee in teaching or research in the area of the Virology.

3 Specialised training or experience in the Cell Culture and other modern techniques in the study of viruses.

b) **Lecturer-cum-Curator-1**

QUALIFICATIONS

Essential

i) M.D./Ph.D. in Microbiology.

ii) Specific experience in the maintenance of Cultures and taxonomy and preservation of all types of micro-organisms.

iii) Teaching and research experience in the area of systematics bacteriology and/or Pathology,

Desirable : For the post of Lecturer in Biophysics (Permanent)

Specialisation: Electronmicroscopy/Animal Physiology/Neurophysiology.

For the post of Lecture• in Physics (Bubble Chamber Project)

1 Experience in High Energy Physics especially in the Techniques of Bubble Chamber is essential.

Candidates for the posts of Professors and Readers who do not possess a doctoral degree are required to submit 10 typed/cyclostyled copies of brief resume of their published work. 15% posts of Lecturers will be reserved for the members of the Scheduled Castes and 2% for the members of the Scheduled Tribes, but these will be filled up by other if no suitable Scheduled Castes/Scheduled Tribes applicant is available.

Persons already in service should route their applications through proper channel. Incomplete forms and those *received after the due date will not be* entertained. Serving employees, may, however, send their applications on the prescribed performa, direct to the University. They may route another copy through their Departments. They will be allowed to present themselves for interview only on the production of a 'No Objection Certificate' from their employers. Canvassing in any form will disqualify the candidate.

Application forms can be obtained from the Cashier, Panjab University, Chandigarh, personally on payment of Rs. 2/- or by making a written request to the Finance & Development Officer, PanjabUniversity, Chandigarh, accom: panied by self-addressed stamped envelope of 23X10 cms and a postal order for Rs. 2/- drawn in favour of the Registrar,Punjab University, Chandigarh.

THE UNIVERSITY OF BURDWAN

RAJBATI : BURDWAN
WEST BENGAL

Advertisement No. 16/78-79
Dated 30th May, 1979

Applications in the prescribed from are invited for the post of Lecturer in Zoology (Permanent) with specialization in Cytogenetics in the approved scales of pay of Rs. 700-40-1100-50-1600/- with allowances and other benefits according to University Rules.

Minimum Qualifications

I. (a) A Doctor's Degree or published research work of an equally high standard: and

(b) Consistently good academic record with first or high second class (B in seven point scale) Master's Degree in the relevant subject or an equivalent degree of a foreign University.

The University Council may, on recommendation of the appropriate Selection Committee, waive any of the requirements in view of the candidate's *specialised knowledge in the subject*. The choice of the Committee may not necessarily be confined to those who apply formally.

For application form and other information apply to the Registrar with a self-addressed stamped (0.40p.) envelope (9″ × 4″)

Last date for submission of applications with the requisite fee of Rs. 5/- is **20th June, 1979**

A K Chaudhuri
REGISTRAR

BHOPAL UNIVERSITY

BHOPAL

Advertisement No. 2/79

Applications on the prescribed form (obtainable free by sending a self-addressed envelope of 24 × 12 cms size bearing stamps worth 35 paise) are invited for the post of Deputy Registrar (Development) in the scale of Rs. 750-50-1250 (likely to be revised) with benefits of C.P.F. and other allowances as admissible under the University Rules.

Qualifications and Experience

Candidate should atleast be a graduate of a statutory Indian or Foreign University with preferably post-graduate qualification. Atleast five years first hand experience of administrative work in an academic institution and sufficient experience in a university relating to planning, development and implementation. Working knowledge of Hindi is essential.

Age: *Upper age limit 50 years on* 31.5.1979.

Scheduled Castes/Scheduled Tribes Candidates will be preferred.

Persons already in service must apply through proper channel. They may send an advance copy of their application within the due date and should bring a "No Objection Certificate" from their employer when called for interview.

Candidates *shall have to appear* for an interview at their own cost and produce their original degrees, certificates etc. at that time.

Applications accompanied with a Crossed Indian Postal Order for Rs. 7-00 in favour of the Registrar, Bhopal University, Bhopal should reach the undersigned by name on or before **23.6.1979**.

M. G. Paithankar
REGISTRAR

ALIGARH MUSLIM UNIVERSITY

ALIGARH

Advertisement No. 6/79-80

Applications, on the prescribed form, are invited for the following posts:

"Candidates must possess a Medical qualification included in the first or second schedule or Part II of the third schedule (other than licentiate qualifications) of the Indian Medical Council Act 1956 Holders of educational qualifications included in part II of the third schedule should fulfil the conditions stipulated in Section 13(3) of the Indian Medical Council Act, 1955. Must possess a basic University or equivalent qualification entered in schedules under State/Central Registration Act."

Professors (Three Posts) in the Department of Ophthalmology in the Scale Rs. 1500-60-1800-100-2000-125/2-2500 plus Allowances. (Plan Posts)

M.S. (Ophthalmology) M.D.(Ophthalmology) Specialty Board of Ophthalmology (U.S.A.)

As Reader for five years in the Department of Ophthalmology in a Medical College.

Desirable

Experience in Retinal Surgery, Ocular Pathology or Strabismology.

Prescribed application forms and instructions may be had from the Deputy Registrar (Ex.) either personally or by sending a self-addressed envelope of 23 × 10 cm. Last date for receipt of applications is **30th June 1979.** Incomplete applications and those received late may not be considered.

Higher initial start may be given to candidates possessing exceptional qualifications and experience. Candidates interviewed may be paid contribution towards their T.A. equal to one single Second Class Railway fare only.

Jamalur Rahman
REGISTRAR

THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA

BARODA

NOTIFICATION No. 3

Applications are invited for the following posts in the Faculty of Technology and Engineering:

Sr. No.	Department	POSTS	
		Professor	*Reader*
1.	Civil	1	2
2	Applied Mechanics	-	2
3.	Pharmacy	2	1
4.	Electrical	2	4
5.	Mechanical	--	3
6.	Metallurgical	1	2
7.	Textile Engineering	1	2
8.	Textile Chemistry	1	2
9.	Applied Physics	—	1
10.	Applied Chemistry	--	1
11.	Applied Mathematics		1
12	Architecture	1	3
13.	Incharge of Central Instrumentation	1	-
14.	Central Instrumentation (Scientist)	-	1
15.	Central Instrumentation (Engineer)	—	1
16	Professor of Training and Placement	1	—
17	Chemical Engineering	1	3

Scale: PROFESSOR : Rs. 1500-60-1800-100-2000-125/2-2500
READER : Rs. 1200-50-1300-60-1600-Assessment-60-1900.
} Plus usual allowances as per rules.

Prescribed application forms alongwith details of qualifications and specialization will be available upto **14th July, 1979** from the undersigned on prepayment of Rs. 2.00 (Re. 0-50 for members of SC/ST) by means of cross Indian Postal Order payable to the Registrar, M.S. University of Baroda along [illegible] self-*addressed envelope of 30 × 12 Cms. for each post.*

The SC/ST candidate at the time of requesting for application form should attach a certificate to this effect.

The application forms accompanied by cross Indian Postal Order payable to the Registrar, M.S. University of Baroda worth Rs. 10/- (Rs. 2.50 for SC/ST candidate) for the above posts should reach on or before **21 July, 1979.** The candidates if called for interview will have to come at their **own expenses**

K. A. Amin
REGISTRAR

JAWAHARLAL NEHRU UNIVERSITY

NEW DELHI-110067

Adv. No. Aca. III 16 79

Applications are invited for the following posts:

SCHOOL OF SOCIAL SCIENCES

Centre for the Study of Regional Development

1. Associate Professor Fellow in Regional Geography

Qualifications

Essential

- (a) Consistently good academic record with at least a high second class Master's Degree in Geography or an equivalent qualification from an Indian or foreign University;
- (b) A doctor's degree or published work of an equally high standard; and
- (c) About five years experience of teaching and or research.

Area of Specialisation required

Regional Planning.

2. Associate Professor in Physical Geography

Qualifications

Essential

- (a) Consistently good academic record with at least a high second class Master's degree in Geography or its equivalent qualification from an Indian foreign University;
- (b) A Doctor's degree or published work of an equally high standard.

Area of Specialisation required

Geomorphology and or Climatology.

Desirable

Some teaching or research experience.

3. Assistant Professor in Economics

Qualifications

Essential

- (a) Consistently good academic record with at least a high second class Master's degree in Economics or its equivalent qualification from an Indian foreign University;
- (b) A Doctor's degree or published work of an equally high standard.

Area of Specialisation required

Regional Economics.

Desirable

Some teaching or research experience.

SCHOOL OF INTERNATIONAL STUDIES

Centre for West Asian and African Studies

4. Associate Professor Fellow in Gulf Studies

Qualifications

Essential

- (a) Consistently good academic record with at least a high second class Master's degree in Economics or an equivalent qualification from an Indian/foreign University;
- (b) A doctor's degree or published work of an equally high standard relating to international trade and development with experience in applied work; and
- (c) About five year's teaching and or research experience

Desirable

- (i) Experience of supervising research relating to International Trade and Economic Development.
- (ii) Special interest in economic problems of West Asian Gulf countries.

SCHOOL OF LANGUAGES

Centre of African and Asian Languages

5 Assistant Professor in Persian

Qualifications

Essential

- (a) Consistently good academic record with at least a high second class Master's degree in Persian or its equivalent qualification from an Indian foreign University; and
- (b) A doctor's degree or published work of an equally high standard.

Desirable

- (i) Knowledge of History of Persian Language and Literature
- (ii) Knowledge of Modern Persian.
- (iii) Knowledge of Indo-Persian relations.

Provided that in the case of Assistant Professors if the Selection Committees are of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard, it may relax any of qualifications prescribed in (a) above.

Provided further that if a candidate possessing a Doctor's degree or equivalent research work is not available or is not considered suitable, a person possessing a consistently good academic record (weightage being given to M.Phil. or equivalent degree or research work of quality) may be appointed **provided he she has done research work for at least two years or has practical experience in a research laboratory organisation** on the condition that he will have to obtain a Doctor's degree or give evidence of research work of equivalent high standard within five years of his appointment, failing which he will not be able to earn future increments until he fulfils these requirements.

SCALES OF PAY

Associate Professor Fellow: Rs 1200-50-1300-60-1900

Assistant Professor: Rs 700-40-1100-50-1600.

Plus usual allowances as admissible to the members of the staff in the Central Universities

Relaxation in any of the qualifications may be made (a) in favour of persons of eminence or of high academic professional distinction, and (b) in exceptional cases where adequately qualified persons are not available but are otherwise found suitable for the respective positions. It will also be open to the University to consider the names of suitable candidates who may not have applied.

The selected candidates will be expected to participate in the teaching and research programmes in the concerned disciplines in other Schools of the University as well as in the programmes offered in their own Centres of Studies.

Normally appointment of Fellows is made on contract basis for a period ranging from one to three years.

Benefits of C.P. Fund-Cum-Gratuity G.P. Fund-cum-Pension-cum-Gratuity are available as per University rules.

Persons already in employment should route their applications through proper channel.

Due consideration will be given to candidates belonging to SC ST at the level of Assistant Professor.

Second class (mail) rail fare (both ways) will be paid to candidates invited to appear for interview from outstation by the shortest route subject to the production of rail receipt

Applications, separate for each post, on the prescribed form, obtainable free of cost from the University by sending a self-addressed and stamped envelope of 23 cm × 10 cm. size to the **Deputy Registrar (Academic), Jawaharlal Nehru University, New Mehrauli Road, New Delhi-110067, should reach him latest by 30 6 1979**

Candidates from abroad, applying for faculty positions, may apply on plain paper, (but their applications should reach the University by the last date) furnishing all the relevant informations such as their names, date and place of birth; marital status, nationality, state of domicile; postal and permanent addresses; father's names and address, academic and professional attainments, full details of (a) publications, and (b) research projects undertaken; language(s) known; details of visits to foreign countries; and the name and addresses of at least two persons well acquainted with the candidate's professional work who should also be requested by the candidate to forward to the Deputy Registrar (Academic) confidential report concerning the candidade

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THE UNIVERSITY OF KASHMIR

SRINAGAR-190006

NOTICE

Applications in the prescribed forms are invited for the post of Reader in Urdu which should reach the undersigned on or before **25th June 1979**

The prescribed application forms can be had from the counter on payment of Rs. 6 - or by sending a crossed Postal Order drawn in favour of the Registrar cashable at Srinagar Post Office alongwith a self addressed envelope (5" x 11") with the necessary postage.

Candidates are advised in their own interest to send their detailed curriculum vitae in advance.

The details in respects of qualifications for the post can be had from the office of the under signed.

Peerzada Ghulam Hassan
DEPUTY REGISTRAR (Admn.)

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